No. /LCB

TENDER NOTICE

No.C-48021/01-49/2012-13/LCB/Material **Dated:18.02.2013**

CENTRAL POLLUTION CONTROL BOARD
'PARIVESH BHAWAN'
C.B.D. CUM OFFICE COMPLEX
EAST ARJUN NAGAR
DELHI - 110 032.

INDEX

S. No.	Contents	Page No.
01.	Schedule of Tender	(i)
02.	Copy of Advertisement appeared in News paper	(ii)
03.	Details of Tender Notice	(iii-iv)
04.	General Terms & Conditions	1-2
05.	Submission of Bid	3
06.	Payment Conditions	8
07.	Settlement of Dispute	8-9
08.	Force Majeure	9
09.	Application Form	10
10.	Bid Form	11
11.	Undertaking	12
12.	Schedule of Earnest Money	13-14
13.	Location of delivery and installation	15-16
14.	Pre contract Integrity form	17-22
15.	Specification of instruments/equipment	23-100
16.	Check list	101

CENTRAL POLLUTION CONTROL BOARD
(MINISTRY OF ENVIRONMENT & FORESTS)
'PARIVESH BHAWAN'
C.B.D. CUM OFFICE COMPLEX
EAST ARJUN NAGAR, DELHI-32.

LOCAL COMPETITIVE BIDDING
TENDER NOTICE NO.C-48021/1-49/12-13/LCB/MATERIALS
DATED 18.02.2013
FOR THE SUPPLY OF INSTRUMENTS/EQUIPMENTS.

Price of Tender Document :		**Rs.500.00 By Hand** **Rs. 700.00 By Post**
Sale of Tenders	:	18.02.2013 to 13.03.2013 on all working days between 11.00 AM to 5.00 P.M.
Last date of submission of tenders	:	Upto 10.00 A.M. on 14.03.2013
Opening of Tenders	:	14.03.2013 at 11.00 A.M.

DELHI – 18.02.2013

(M. Varghese)
Administrative Officer

TELEPHONE : 22308202, 43102030 Extn. 243 & 245
FAX : 011-22307078, 22307079, 22308202
Website : www.cpcb.nic.in

Central Pollution Control Board
(Ministry of Environment & Forests)
"Parivesh Bhawan" East Arjun Nagar.
Delhi – 110032. India
Tel. Nos. 22308202, 43102030 – Extn.243

TENDER NOTICE

No.C-48011/01-49/2012-13/LCB/Materials. **Dated.18.02.2013**

Sealed tenders are invited on behalf of the Member Secretary, Central Pollution Control Board from the manufacturer/supplier in India for the supply of various Laboratory Instruments/equipments.

02. The Tender Document along with detailed specifications of the instruments can be obtained from the office of Administrative Officer (Material), Central Pollution Control Board.

03. The request for tender documents sent by post will be accepted up to 07.03.2013.

Sale of Tender Document	**-**	**From 18.02.2013 to 13.03.2013 on all working days between 11.00 AM to 5.00 PM**
Cost of Tender Document	**-**	**By hand ₹500.00 By post ₹700.00 Tender fee only through pay order/Demand Draft**
Last date & time for submission	**-**	**14.03.2013 up to 10.00 AM**
Opening date of Technical bids	**-**	**14.03.2013 at 11.00 AM**

Bidder using downloaded tender forms must submit separate tender fee by Demand Draft along with technical bid drawn in favour of Central Pollution Control Board, Delhi. Details of tender document, terms & conditions and Technical Specification may kindly be seen at our website www.cpcb.nic.in.

Administrative Officer
(Material)

CENTRAL POLLUTION CONTROL BOARD
(Ministry of Environment and Forests)
"Parivesh Bhavan" East Arjun Nagar,
Delhi – 110 032, INDIA

DETAILS OF TENDER NOTICE

NO.C-47011/ 01-49/2012-13/LCB/MATERIALS: Dated:18.02.2013

FOR SUPPLY OF LABORATORY INSTRUMENT/EQUIPMENTS

Sealed Tenders are invited on behalf of the Member Secretary, Central Pollution Control Board from Manufacturer/Suppliers in India and abroad for the supply of various Laboratory Instrument / equipments as listed below:

Autoclave (Vertical) Stainless Steel.4, Auto Titrator 2, Bio-safety cabinet,3, Bacteriological Microbiological) Incubator 4, Bottle Cooler 2, BOD Incubator 5, Centrifuge 2, COD Assembly (Digester) 8,Colony Counter 2, Compound Microscope 1, Conductivity Meter 6, Data Display Board 1, Deep Freezer 2,Dehumidifier 4, Digital Barometer 5, Dissolved Oxygen (DO) meter 3, Distillation Unit for Phenols (well equipped with cooling facility) 6, Distillation Unit for Cyanide (well equipped with cooling facility) 5, Flame Photometer 1, Filtration Unit 2,Global Positioning System (GPS) 18, Grinding Machine 1, Hand Held Temperature and Relative Humidity Meter 5, Handy Samplers 16, High Temperature Thermocouple with Digital Pyrometer 1, Hot Air Oven (Medium) 6, Hot Air Oven (Small) 2, Hot Plate Digital Control 13, Magnetic Stirrer 4, Mechanical Shaker 1, Microscope (binocular and attached display system) 2, Muffle Furnace 2, Multi Filtration Assembly (4-5 dilution) 1, Packing and Sealing Machines 1, pH meter 6, PM10 Sampler 16, Stack Monitoring Kit 6, Spectrophotometer 4, Standard Weight (Traceable to NIST) 3, Stirrer with RPM Indicator (>150 Ltr) 3, Theodolite 1, Teflon Coated Container 4, Turbidity Meter 2, Ultrasonic Pipette Cleaner 2, VOC Sampler 5, Water Purifier without RO system 01, Water Purifier with RO system 2, Zero Grade Nitrogen (N2) Gas (Certified) with Cylinder 5, Zero Air Gas (Certified) with Cylinder 5,

02. The Tender Documents along with detailed specifications of the instruments can be obtained in person on Production of authority letter of the Firm or by post from the office of the Administrative Officer (Material), Central Pollution Control Board or by the authorized representative with prescribed tender fee in the form of DD/Payorder drawn in favour of Central Pollution Control Board, Delhi

03. The Bid must be submitted in English, by the principal / their authorized suppliers.

04. The Earnest Money as indicated in Bid document must be submitted by the Bidder along with the Tender in the form of Demand Draft only drawn in favour of "CENTRAL POLLUTION CONTROL BOARD" payable at Delhi (India). It should be either in Indian Rupees or in bid currency (equivalent amount as per the exchange rate prevailing). The Indian agent/ representative should furnish an authorization letter from their foreign Principal supplier authorizing to deposit the EMD on their behalf.

05. The request for Competitive Bidding Documents sent by post will be accepted strictly Up to 07.03.2013. CPCB will not be responsible for any delay in receipt of tender document sent by post. Request received by post after above mentioned date will not be entertained at any cost. Other details are as follows:

Sale of tender document - From 18.02.2013 to 13.03.2013 on all working days between 11.00 am to 5.00 pm.

Cost of tender document - By hand ₹ 500.00 By post ₹ 700.00

Earnest Money along with Tender	**-**	**As indicated in the Tender Document**
Last date & time for submission	**-**	**Up to 10.00 AM on 14.03.2013**
Date of opening of tender	**-**	**At 11.00 A.m. on 14.03.2013**

06.Bidders using downloaded tender forms must submit separate tender fee by Demand Draft along with technical bid drawn in favour of Central Pollution Control Board, Delhi.

Administrative Officer
(Material)

COMMITTED FOR CLEAN ENVIRONMENT

1.0 GENERAL TERMS AND CONDITIONS

1.1 This document contains the following:

i) Copy of the Local Competitive Bidding Notice
ii) General Terms and Conditions of Bid
iii) Terms and Conditions for Submission of Bid
iv) Payment Terms
v) Settlement of Dispute
vi) Application Form
vii) Undertaking
viii) Bid Form
ix) Schedule of Earnest Money to be deposited alongwith Tender
x) Quantity of Instruments and Locations of delivery and installation.
xi) Pre-contract Integrating pact form
xii) Detailed specification of the instruments.
xiii) Check List.

1.2 The Tender Document is not transferable by the purchaser. The bid form in the bid form at Annexure-II may be used for bidding. Documents/forms down loaded from the net can also be used.. However, the additional sheets containing the same proforma may be used for each item. Each sheet including that provided by the Board with this document must be signed by the bidder. The price bid must be in the form provided herewith at Annexure-II.

1.3 The tender will not be accepted from the firm to whom the document is not issued by the Board The bid downloaded form not without tender fee will not be accepted

1.4 The Board takes no responsibility for delay or non receipt of Tender Document sent by post either way and also reserves the right to accept; or reject any or all the tenders in part or full without assigning any reason thereof.

1.5 No bid document will be sold after the last date of sale of Tender Document or between the extended period of opening date, if any.

1.6 The bidder is expected to examine all instructions, forms, terms and conditions and specifications mentioned in the bidding document. Failure to furnish all information required by the bidding documents or submission of a bid not substantially irresponsive to the bidding document in every respect will be at the bidder's risk and may result in the rejection of it's bid.

1.7 This call of tenders does not bind the Central Board to place order. The Tenders submitted in response to this invitation can be rejected without assigning any reason.

1.8 The bidder should be a manufacturer. This tender notice, tender forms, schedule of requirements, specification etc are also available on CPCB's Website www.cpcb.nic.in. Bidders using down loaded tender form must submit a separate tender fee by Demand Draft/pay order along with the technical part of the bid. The tender without requisite tender fee will be rejected.

1.9 The Board at its discretion may extend the last date of submission of tender and opening of tenders. The final authority for acceptance of a Tender will rest with the Chairman, Central Pollution Control Board who does not bind himself to accept the lowest tender and is vested with the authority to reject any or all of the tenders received without assigning any reason.

1.10 Documents, literature, diagrams/leaflets, samples etc., enclosed in the tender shall become the property of the Central Board without any payment.

1.11 The warranty period for item Sl. No. 31 will be for thirty six months starting from the date of successful commissioning of the instrument and for the rest of the item warranty will be for a period of twelve months. Under this warranty upon the receipt of such notice supplier/agent shall within the period specified, repair/replaced the defective instrument or spare parts thereof at the ultimate destination. The supplier/agent shall take over the replaced parts/goods, in the event of any correction of defects or replacement of defective material. In such cases, the warranty for the corrected/replaced materials shall be extended till the left over period of warranty.

1.12 The Tender would be regarded as turned down, if no award of contract has been obtained till the expiry of the Tender validity. No separate communication will be made in this regard.

1.13 The items have to be supplied in standard packaging.

1.14 If the last date for sale, submission and opening of Tenders falls on any Government declared holidays, the next working day at the same time will be considered last dates of the same.

1.15 The bid shall contain no interlineations, erasures or overwriting words except as necessary to correct errors made by the bidder, in that case such correction shall be initialed by the person or persons signing the bid.

1.16 Late and delayed tenders will not be considered and shall be returned unopened to the Bidder.

1.17 It is advised that the outside suppliers should send the Tender through Registered Post/Speed post/Courier. However, the local supplier may drop their Tenders in Tender Box kept in Central Board for the purpose. In no case Tender should be handed over to any employee of the Board.

1.18 Canvassing in any form will disqualify the Bid.

1.19 Request for the Tender Document for bidding through e-mail, Telephone, Fax, E-Mail and Tele fax, money order shall not be entertained.

1.20 The Tender Notice No.C-48021/01-49/2012-13/LCB/Materials dated.18.02.2013 (The item code number is given in the specification sheet against each item must be invariably be quoted in the bid and for further correspondence in this regard will be entertained.

1.21 All the Tenders should be addressed to:
THE ADMINISTRATIVE OFFICER (M)
CENTRAL POLLUTION CONTROL BOARD
'PARIVESH BHAWAN'
EAST ARJUN NAGAR, DELHI - 110 032, INDIA

2.0 SUBMISSION OF BID

2.1 The bid prepared by the bidder and all correspondence and documents relating to the bid exchanged by the bidder and the purchaser, shall be written in English language, provided that any printed literature furnished by the Bidder may be written in another language so long as accompanied by English translation of its pertinent passages in such case, for the purpose of interpretation of the bid, English translation shall govern.

2.2 The bid must accompany Annexure-I with Techno Commercial part of Bid tender fee incase of downloaded and Annexure-II & III along with 'Price' part of the Bid duly filled in and signed by the Bidder along with the seal of the Firm.

2.3 The Bidders are requested to quote excise duty excluded price in item-wise and total price of each instrument separately indicating the Govt. levies, freight, insurance, installation charges and other expenditure item-wise F.O.R. CPCB/Locations as indicated in the Annexure – V of this document. No C/D form will be issued against VAT. Necessary excise duty exemption certificate as applicable will be supplied. The bidder is expected to examine the bidding documents carefully and are deemed to have received and read all documents. It shall be the responsibility of the bidder to request the copies of any missing documents. Failure to do so will be at bidders risks.

2.4 It may be noted that mere quoting lowest rates will not entitle any firm to get the order. The quality of the item being offered, the past performance supply etc will also be taken in to consideration. Prior to award of purchase order the buyer can call any details, explanation, regarding technical & financial aspect.

IMPORTANT

BIDDER CAN QUOTE THE RATES FOR ALL THE INSTRUMENTS OR SOME OF THE INSTRUMENTS AGAINST ONE TENDER DOCUMENT. HOWEVER, SEPARATE PRICE BID AND TECHNICAL BID SHOULD BE SUBMITTED FOR EACH ITEM CLEARLY MENTIONING THE ITEM CODE NUMBER, ITEM NAME ON THE TOP OF THE ENVELOPES WITH SENDERS NAME AND ADDRESS. THE CENTRAL POLLUTION CONTROL BOARD RESERVES THE RIGHT TO ACCEPT THE TENDER IN FULL OR IN PART. THE BID FOR EACH ITEM SHOULD BE IN SEPARATE SHEETS/PAGES AND FOR THE SAKE OF IDENTITY, COMPILATION, INSTRUMENT/ITEM CODE NUMBER AND DESCRIPTION OF ITEM SHOULD BE WRITTEN ON THE TOP OF EACH BID.EMD SHOULD BE SUBMITTED SEPARATELY AGAINST EACH ITEM. CONTAINING TECHNICAL, PRICE BID AND ITEM WISE EMD; ITEMS-WISE TECHNICAL SPECIFICATION AND PRICE SHOULD BE IN SEPARATE SHEETS i.e. THERE SHOULD BE SEPARATE ENVELOPE FOR EACH ITEMS. CONTAINING TECHNICAL, PRICE BID AND ITEM WISE EMD; INCASE BIDDERS DESIRES TO QUOTE MORE THAN ONE ITEM. THOSE TENDERS DO NOT COMPLY THE ABOVE INSTRUCTION WILL NOT BE CONSIDERED. PLEASE DO NOT ENCLOSE THE EMD ALONGWITH THE ENVELOPS FOR PRICE BID. THE EMD ALONGWITH THE COMBINED BID WILL NOT BE CONSIDERED.

2.5 The Tender is to be submitted "single, stage- three envelops system" i.e. the second sealed envelope will contain the Earnest Money Deposit full information required to judge pre-qualification, earnest money, complete details and specification of the instruments offered including the leaflets and catalogues, list of credentials with documentary evidence i.e., purchase/work order etc.,

Income Tax Clearance Certificate, PAN No., Vat/Sales Tax Registration No., Affidavit for not being black listed, Commercial Terms & Conditions etc. It shall be marked "Pre-qualifications, technical and commercial Bid No.C-48021/01-49/LCB/2012-13 dated.18.02.2013 due on 14.03.2013 for supply of instruments & equipments". The Third envelope will contain only price quoted by the bidder in the form given at Annexure -II of this document and shall be clearly marked "Price Bid No.C-48021/01-49/ 2012-13/LCB/Materials dated 18.02.2013 for instruments & equipment" . Both the above envelopes must be separately sealed and shall be kept in one envelope bearing the address of Central Pollution Control Board and superscribed with bold letter "TENDER FOR INSTRUMENTS & EQUIPMENTS- NOT TO OPEN BEFORE 14.03.2013 AT 11.00 A.M. The senders address should be mentioned in all envelopes.

Item Code number(s) should be mentioned invariably on all envelopes. Separate bids for separate item should be submitted. The combined bid will not be considered.

2.6 Technical & Commercial part of the tender will be opened on due date i.e. at 11.00 A.M. on 14.03.2013 in the office of the Central Board in presence of the Representative of the Tenders who would like to present Sealed Price part of Technically and Commercially acceptable tenders will be opened on a later date which will be communicated by the Board on the same day or on a later date.

2.7. The bidder shall furnish, as part of its bid, bid security for each instrument/equipment separately for the amount mentioned in scheduled IV requirements.

2.8. The bid security shall be in the form of Demand Draft/Pay order only in favour of "CENTRAL POLLUTION CONTROL BOARD" payable at DELHI. No Earnest Money shall be accepted in any form. The Earnest Money shall be forefeited if a bidder withdraws or amends the tender in any respect within the period of validity of this tender or fails to supply the instruments within the specified period in the tender document. Tender shall not entertained where a Tenderer has not furnished adequate earnest money in the Prescribed and acceptable form. In case the instrument supplied is found defective and not attended by the supplier, the Earnest Money deposited by the supplier will also be forfeited.

2.9 The Firm who seek exemption from depositing earnest money being small scale industry or being registered with NSIC , DGS&D and other Government agencies which entitles them for exemption must submit the valid Registration Certificate cover the instrument offered by them along with the permissible value. The copy of Government Notification granting exemption from deposit of EMD must be submitted along with the techno- commercial part of tender along with the bid. (EMD Exemption will be granted only to those items specified in the certificate of Registration).

2.10 Unsuccessful bidders bid security will be discharged/ returned without any interest in the same form after the concerned purchase is finalized or within three months whichever is earlier and that of successful bidders will be discharged without interest within one month of the successful installation and commissioning of the instrument.

2.11 The validity of Tender would be for a minimum period of 120 days from the date of opening of Tenders. A Bid valid for a shorter period may be rejected by the Board as non responsive. Incase, the validity to be extended, the Board may solicit the Bidder's consent to an extension on the period of validity and the bid shall remain valid for the extended period mutually agreed for.

2.12 The rates should be quoted both in words and figures.

2.13 Arithmetical error will be rectified on the following basis:- If there is discrepancy between the unit price and total price that is obtained by the multiplying the Unit Price and quantity, the unit price shall prevail and the total price shall be corrected. If there is discrepancy between words and figures, the amount mentioned in words will prevail.

2.14 Tenders not in proper sealed cover or received through/E-mail/Fax/telefax will not be entertained.

2.15 Conditional Tenders will be rejected without assigning any reason.

2.16 The Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to the Contract. The letter of authorization should bear the signatures of only the authorized person of the firm. All pages of the Bid, except for un-amended printed literature shall be initial by the person or persons signing the bid.

2.17 To assist in the examination, evaluation and comparison of bids the buyer may, at its discretion, ask the Bidder for a clarification of its bid. However, no change in the price or substance of the bid shall be sought, offered, re-permitted.

2.18. Eventual suggestions for modification or subsidiary Tenders are principally not admissible.

2.19 The specification are clearly mentioned in the document and the Bidder are requested to submit Bid only if their offer strictly comply to these specifications. Please note that no deviation in the required specification will be permitted. The bidding for the instruments having different specification will be on Bidder's risk as the Board will not entertain such Bids. BIDS CARRYING THE STATEMENT LIKE "SPECIFICATION AS PER TENDER DOCUMENT" SHALL NOT BE ENTERTAINED. THE PRODUCT SPECIFICATIONS SUPPORTED BY TECHNICAL LITERATURE AND LIST OF USERS, MUST BE ENCLOSED.

2.20 The placement of work order/purchase order will be according to technical evaluation of the Tender and after consideration of its price worthiness.

2.21 The price to be given in the Tender are fixed prices, irrespective of rise in Materials prices and increase in taxes etc., till complete the delivery of items . No request in regard to increase in the price of instruments or in taxes etc., will be entertained after the submission of the tender.

2.22 **The supplier should attach a blank copy of financial bid (without cost/price figures) along with the technical bid to assess the items included/components quoted in the bid.**

2.23 The nomenclature of the instruments and spares will be invariably same in Proforma Invoice, Invoice, Packing list and in other relevant papers incase the Bidder is asked to supply the instruments against its offer.

2.24 With the submission of the Tender, the Bidder accepts the conditions of the Tender.

2.25 The installation of the instruments is the entire responsibility of the supplier. It must be done either by the principal/supplier or their authorized agents within one month of the receipt of the instruments by the Board. The supplier or Agent should be in touch with the Materials Section of the Board to know the exact day of receipt of stores supplied/dispatched by them.

2.26 If the instrument supplied is not in conformity with the specification other than asked for, it will have to be replaced at the risk and cost of the supplier. No freight and other charges will be paid by the Board.

2.27 The list of instruments/equipment, their approximate quantity and point of delivery is given at Annexure-V and the detailed specification of the instrument are given in the tender document (**pages 23 -100**) . The quantity mentioned in the tender document may be increased /decreased at the discretion of the Competent Authority in the Central Board without assigning any reason.

2.28 Each and every folio of the Tender must be signed by the Bidder.

2.29 Bidder can quote the rates for all the instruments or some of the instruments. The Bid shall be considered only for those instruments for which the rates have been specifically quoted. The Board further reserves the right to accept the Tender for all the instruments or some of the instruments for which the bidder has quoted the Bid. The bidder should attach a separate list for the consumable/spares required for smooth operation of the instrument at least for three years(as optional items) and two copies of trouble shooting manuals, electric circuits etc. along with the bids.

2.30 The bidder should provide a complete list of spares and consumables required for operation and maintenance of the instruments along with the price list.

2.31. Annual maintenance contract:
The bidder should quote the charges for annual maintenance contract after the warranty period for the instrument listed in annexure IV of this tender document at serial number 31**.**

2.32. The instrument for which Tenders are invited will have to be supplied within 30 days from the date of issue of purchase order. in the case of non-observance of the delivery period , the order will be cancelled.

2.33 The after sales service is most important to be considered for comparison bids .The firms who do not have local Agents to provide after sales and service during warranty period will not be considered.

2.34 In the case of proprietary item, the proprietary certificate issued by the principal/manufacturer should be attach along with the technical bid. In that case, the bid of the sole distributor will only be considered. A copy of the latest supply order (showing details of price) executed to any other Departments under Govt of India should be attached along with the price bid.

2.35. If the instrument supplied is found defective/unsatisfactory condition/short supply/other than specifications in the Purchase Orders, the same will have to be replaced at the suppliers risk and cost. No freight and other charges for replacement will be paid by the Board.

2.36 At any time prior to the deadline for submission of bids the buyer may for any reason whether at it's own initiative or in response to a clarification requested by a prospective Bidder, modify the bidding documents by an amendment.

2.37 The Amendment if any, will be brought to the notice in writing or by fax or cable to all concerned Bidders who have purchased the bidding documents and will be binding on them.

2.38 In order to afford prospective Bidder reasonable time in which to take the Amendment into account in preparing their bids, the purchaser may at its discretion, extend the deadline for the submission of bids.

2.39. The prices must be quoted item-wise i.e. basic price, taxes, packing forwarding, handling and installation charges etc. The charges must be quoted clearly and not in vague terms like "As Actual" "Approx" etc.

2.40 If according to the Bidder, the Tendered Documents contain unclear points which could influence price calculations, the bidder has to inform the authority who is issuing the call of Tenders before submission of his Tender, either in writing or by fax even if he has pointed out this earlier in any other form/reference.

2.41 The Packing, Forwarding, Insurance, Transportation & Installation including training charges if any must be quoted separately for each item according to the place of delivery as mentioned in the schedule at Annexure-V. The supplier will be held liable for any damage, theft or loss during transit. The instruments are to be dispatched to the respective places directly and to be installed there by the supplier under intimation to the, CPCB Office at Parivesh Bhawan, Delhi-32. The prices should be quoted FOR CPCB/designated location mentioned in annexure-V.

2.42. The warranty/guarantee of the instrument/equipment should be clearly mentioned in the Bid.

2.43. Prior to placing purchase order, in case the buyer desires to inspect the stores/instrument equipment including demonstration should be arranged by the supplier in the premises of the Central Board on free of charges.

2.44. MOST IMPORTANT

PLEASE NOTE THAT ANNEXURE-I OF THIS DOCUMENT MUST BE ENCLOSED WITH THE FIRST PART OF BID i.e. "TECHNICAL/COMMERCIAL BID AND TENDER FEE

(IN THE CASE OF DOWNLOADED DOCUMENT" AND ANNEXURE-II, III WILL BE KEPT IN THE SECOND PART OF BID i.e. PRICE BID.

2.45. PLEASE NOTE THAT THERE IS NO NEED TO ENCLOSE THE ENTIRE TENDER DOCUMENT (SUPPLIED BY THE BOARD) WITH YOUR BID. ONLY ANNEXURE-I,II AND III NEED TO BE ENCLOSED AS PER INSTRUCTION STIPULATED IN PARA 2.44, 2.5 AND OTHER RELEVANT PARAGRAPHS OF THIS BID.

2.46. The firm whosover getting the award/purchase order should sign and submit a Pre-integrity pact with the buyer as per the format attached as Annexure – VI of this tender documents.

3.0. **PAYMENT CONDITIONS**

3.1 Full payment will be released on delivery, installation and successful commissioning of the instruments/equipment (to be certified by concerned Scientist/Incharge of the Division, and on submission of bills in duplicate and on furnishing performance Bank Guarantee for 10% of the purchase order valid for a period of 60 days beyond the warranty period. No advance payment will be made in any case and no proposal for documents through Bank will be considered. Hence, no preference will be given for such advance payment proposal. The defective, substandard and contrary to the specifications instruments supplied have to be replaced by the supplier at their cost and responsibility.

3.2 In case several bills are presented, against one order, the reference of supply order and other details should be mentioned in each and every bill.

4.0 SETTLEMENT OF DISPUTE, ARBITRATION

4.1 All disputes or difference arising out of or in connection with the contract and supply of any item/equipment assigned under the same (whether during the progress of the works or after their completion, determination, abandonment or breach of the contract) shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The Arbitral Tribunal shall consists of three (3) arbitrators appointed by the Chairman, Central Pollution Control Board. The arbitrators shall elect an umpire among them. In case of failure of the two arbitrator appointed, to reach upon a consensus, the decision of the umpire shall be final and binding. It will not be an objection to any such appointment that the arbitrators are the Government Servants and had any interest in the Board or the contract entered into directly or indirectly. In all cases, the arbitrator shall state their reasons, award/decision in writing of an amount of claim in dispute is Rs.50,000/- and above, subject as aforesaid the provision of the Arbitration and Conciliation Act 1996 or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceedings under this clause. Arbitration proceeding shall be held at Delhi/New Delhi, India. The Cost and expenses of Arbitration proceedings shall be borne by the party invoking the Arbitration clause.

4.2 It is a term of the contract that the party invoking the arbitration shall specify the dispute for disputes to be referred to the arbitration under this clause together with the amount or amount claimed in respect of each such dispute.

4.3 It is also a term of the contract that if the supplier (s) do not make any demand for arbitration in respect of any claim (s) or dispute in writing within 90 days of submission of the final bill for payment, the claim of the supplier will be deemed to have been waived and absolutely barred and the Board will be discharged and released of all liabilities under the contract in respect of these claims.

4.4 The courts at Delhi shall have exclusive jurisdiction to entertain and try all matters arising out of this contract.

5.0 FORCE MAJEURE

Vendor shall not be considered in default if delay in delivery occurs due to causes beyond his control such as acts of God, natural calamities, civil, wars, strikes, fire frost, floods, riots and acts of unsurped power. Only those causes which have a duration of more than 7 calendar days shall be considered cause of force majeure. A notification to this effect duly certified by the Local Chamber of Commerce/Statutory Authorities shall be given by the Vendor to the owner by registered letter. In the event of delay due to such cases a length of time equal to the period of force majeur or at the option of the owner the order may be cancelled. Such cancellation would be without any liability whatsoever on the part of owner. In the event of such cancellation the vendor shall refund any amount advanced or period to the vendor by the Purchaser and delivery back any material issued to him by the Purchaser and release facilities, if any, provided by the Purchaser.

Annexure-I

S.No. /LCB

APPLICATION FORM

(To be filled by the bidder)

1) Name and full address of the Bidder including Telegraphic Address/Telex No. and Fax No. :

2) Name and Designation of the Head of the Firm/supplier and his Telephone No. :

3) i) In case the supplier is located out of Delhi;specify the Address/Authorised Distributor's or Agent's Address in Delhi, if any. :

ii) Name, Designation,Address Telephone & Fax Numbers of the Authorised Person who may be contacted during the process of the purchase concerned under this document (Applicable for all the suppliers) :

4). Item Code Number(s) & description of item quoted for. :

5) Whether Earnest Money Deposited (Amount: Rs. :

6) If yes, Demand Draft No, Date and Name of issuing Bank. :

7) Validity of Tender :

8) If the tender documents are accepted in full (Yes or No) :

9) Income Tax Clearance Certificate attached (Latest) (Yes or No) with PAN Number. :

Place:

Date : Legally Binding Signature with stamp

Annexure -II

BID FORM

No. /LCB

Details showing quantity, specification and other details of the instruments offered (to be filled by the bidder and must be kept in "Price Bid" part of the Tender)

Sl.No and Item code Number of instruments as per our tender Document	Name of Instrument	The Specification offered by the Bidder	Difference in Specifications of tender document and that of Bid, if any	Quantity	Unit Price (in Rupees excluding rates at col. no. 7)	Taxes and other expenditures (Sales Tax, C.S.T, freight, cost of installation & tranning (in case of indigenous items)etc.	Total Amount in Rupees FOR CPCB/ Locations
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**

NOTE:- If this sheet is not sufficient to accommodate the bid the additional sheets containing the same proforma but all such sheets including this one must be signed by the Bidder along with the seal. This Annexure must enclose in the Proforma Invoice price bid for item wise. Separate Bid form should be attached against each item, quoted for.

Administrative Officer (Material)

Signature with date & stamp of the bidder

Annexure – III

UNDERTAKING

DATE_____
TENDER NOTICE NO_____

TO

THE CHAIRMAN
CENTRAL POLLUTION CONTROL BOARD
(MINISTRY OF ENVIRONMENT & FORESTS GOVERNMENT OF INDIA)
C.B.D. CUM OFFICE COMPLEX
EAST ARJUN NAGAR DELHI - 110 032.

Sir,

Having examined the conditions of Tender Document and specifications of the instruments, the receipt of which is hereby acknowledged. We, the undersigned, offer to supply, delivery and install the following:

1.
2.
3.
4.
5.
6.
8.
9.
10.
11.
12.
13

(Please add additional pages, if required)The above supply, installation shall be in conformity with the specifications and conditions of supply .

We undertake if our bid is accepted to deliver the instruments quoted by us, we shall deliver and install within the period indicated by us in our offer.

We agree to abide by this bid for a period of 120 days from the date fixed for Bid opening and it shall remain binding upon us and may be accepted at any time before expiration of that period.

We are submitting a Demand Draft/Pay order for Rs.....in favour of "Central Pollution Control Board", Delhi towards the Earnest Money.

This Bid, together with your written acceptance thereof in your notification of award shall constitute a bidding contract between us.

We understood that you are not bound to accept the lowest or any bid you may receive.

Dated this.....day of.....2013

Signature of authorized Person, Name with Stamp & full Address.

Annexure-IV

SCHEDULE OF EARNEST MONEY

Item Code	Instrument / Equipment	Quantity Requirement	EMD
LCB-1	Autoclave (Vertical) Stainless Steel	4 (Four)	24,000/-
LCB-2	Auto Titrator	2 (Two)	1,200/-
LCB-3	Bio-safety cabinet	3 (Three)	90,000/-
LCB-4	Bacteriological (Microbiological) Incubator	4 (Four)	12,000/-
LCB-5	Bottle Cooler	2 (Two)	3,000/-
LCB-6	BOD Incubator	5 (Five)	9,000/-
LCB-7	Centrifuge	2 (Two)	900/-
LCB-8	COD Assembly (Digester)	8 (Eight)	12,000/-
LCB-9	Colony Counter	2 (Two)	1,200/-
LCB-10	Compound Microscope	1 (One)	3,000/-
LCB-11	Conductivity Meter	6 (Six)	6,300/-
LCB-12	Data Display Board	1 (One)	15,000/-
LCB-13	Deep Freezer	2 (Two)	1,800/-
LCB-14	Dehumidifier	4 (Four)	18,000/-
LCB-15	Digital Barometer	5 (Five)	3,750/-
LCB-16	Dissolved Oxygen (DO) meter	3 (Three)	18,000/-
LCB-17	Distillation Unit for Phenols (well equipped with cooling facility)	6 (Six)	8,100/-
LCB-18	Distillation Unit for Cyanide (well equipped with cooling facility)	5 (Five)	6,750/-
LCB-19	Flame Photometer	1 (One)	900/-
LCB-20	Filtration Unit	2 (Two)	5,400/-
LCB-21	Global Positioning System (GPS)	18 (Eighteen)	27,000/-
LCB-22	Grinding Machine	1 (One)	7,500/-
LCB-23	Hand Held Temperature and Relative Humidity Meter	5 (Five)	3,750/-
LCB-24	Handy Samplers	16 (Sixteen)	48,000/--
LCB-25	High Temperature Thermocouple with Digital Pyrometer	1 (One)	3,000/-
LCB-26	Hot Air Oven (Medium)	6 (Six)	8,100/-
LCB-27	Hot Air Oven (Small)	2 (Two)	1,800/-

LCB-28	Hot Plate Digital Control	13 (Thirteen)	5,850/-
LCB-29	Magnetic Stirrer	4 (Four)	1,800/-
LCB-30	Mechanical Shaker	1 (One)	3,000/-
LCB-31	Microscope (binocular and attached display system)	2 (Two)	18,000/-
LCB-32	Muffle Furnace	2 (Two)	1,500/-
LCB-33	Multi Filtration Assembly (4-5 dilution)	1 (One)	3,000/-
LCB-34	Packing and Sealing Machines	1 (One)	45,000/-
LCB-35	pH meter	6 (Six)	6,300/-
LCB-36	PM10 Sampler	16 (Sixteen)	91,200/-
LCB-37	Stack Monitoring Kit	6 (Six)	36,000/-
LCB-38	Spectrophotometer	4 (Four)	20,400/-
LCB-39	Standard Weight (Traceable to NIST)	3 (Three) set	2,700/-
LCB-40	Stirrer with RPM Indicator (>150 Ltr)	3 (Three)	13,500/-
LCB-41	Theodolite	1 (One)	1,500/-
LCB-42	Teflon Coated Container	4 (Four)	7,200/--
LCB-43	Turbidity Meter	2 (Two)	600/-
LCB-44	Ultrasonic Pipette Cleaner	2 (Two)	3,000/-
LCB-45	VOC Sampler	5 (Five)	9,000/-
LCB-46	Water Purifier without RO system	1 (One)	600/-
LCB-47	Water Purifier with RO system	2 (Two)	1,200/-
LCB-48	Zero Grade Nitrogen (N_2) Gas (Certified) with Cylinder	5 (Five)	3,000/-
LCB-49	Zero Air Gas (Certified) with Cylinder	5 (Five)	3,000/-

Annexure v

LOCATION OF DELIVERY AND INSTALLATION OF INSTRUMENTS/EQUIPMENT

Item Code	Instrument / Equipment	Quantity Requirement	Delivery Locations & Nos.
LCB-1	Autoclave (Vertical) Stainless Steel	4 (Four)	BL-2, ZOV-1, ZOK-1
LCB-2	Auto Titrator	2 (Two)	ZOB-2
LCB-3	Bio-safety cabinet	3 (Three)	BL-2, ZOV-1
LCB-4	Bacteriological (Microbiological) Incubator	4 (Four)	BL-2, ZOBH-2
LCB-5	Bottle Cooler	2 (Two)	ZOV-1, ZOBH-1
LCB-6	BOD Incubator	5 (Five)	WL-4, ZOBH-1
LCB-7	Centrifuge	2 (Two)	WL-1, ZOV-1
LCB-8	COD Assembly (Digester)	8 (Eight)	WL-4, ZOL-2, ZOV-2
LCB-9	Colony Counter	2 (Two)	ZOBH-1, ZOV-1
LCB-10	Compound Microscope	1 (One)	ZOBH-1
LCB-11	Conductivity Meter	6 (Six)	WL-3, ZOK-2, POA-1
LCB-12	Data Display Board	1 (One)	AL-1
LCB-13	Deep Freezer	2 (Two)	ZOV-1, BL-1
LCB-14	Dehumidifier	4 (Four)	ZOBH-1, ZOB-1, ZOK-1 ZOV-1
LCB-15	Digital Barometer	5 (Five)	ZOBH-1, ZOB-1, ZOL-1, ZOK-1, ZOV-1
LCB-16	Dissolved Oxygen (DO) meter	3 (Three)	ZOB-2, POA-1
LCB-17	Distillation Unit for Phenols (well equipped with cooling facility)	6 (Six)	WL-2, ZOBH-2, ZOV-2
LCB-18	Distillation Unit for Cyanide (well equipped with cooling facility)	5 (Five)	WL-3, ZOV-2
LCB-19	Flame Photometer	1 (One)	ZOV-1
LCB-20	Filtration Unit	2 (Two)	WL-2
LCB-21	Global Positioning System (GPS)	18 (Eighteen)	AL-2, ZOBH-2, ZOB-2, ZOK-4, ZOL-2, ZOV-3, ZOS-2, POA-1
LCB-22	Grinding Machine	1 (One)	WL-1
LCB-23	Hand Held Temperature and Relative Humidity Meter	5 (Five)	AL-5
LCB-24	Handy Samplers	16 (Sixteen)	ZOV-4, ZOL-4, POA-4, ZOBH-4
LCB-25	High Temperature Thermocouple with Digital Pyrometer	1 (One)	ZOB-1
LCB-26	Hot Air Oven (Medium)	6 (Six)	IL-1, WL-2, BL-1, ZOK-1, ZOV-1
LCB-27	Hot Air Oven (Small)	2 (Two)	IL-1, ZOK-1
LCB-28	Hot Plate Digital Control	13 (Thirteen)	IL-2, ZOL-2, ZOK-3, ZOBH-2, POA-2, AL-2
LCB-29	Magnetic Stirrer	4 (Four)	BL-2, ZOK-2
LCB-30	Mechanical Shaker	1 (One)	ZOK-1
LCB-31	Microscope (binocular and attached display system)	2 (Two)	BL-2
LCB-32	Muffle Furnace	2 (Two)	WL-1, ZOV-1
LCB-33	Multi Filtration Assembly (4-5 dilution)	1 (One)	ZOBH-1
LCB-34	Packing and Sealing Machines	1 (One)	WL-1

LCB-35	pH meter	6 (Six)	WL-3, ZOK-2, POA-1
LCB-36	PM10 Sampler	16 (Sixteen)	AL-2, POA-4, ZOK-4, ZOBH-4, ZOV-2
LCB-37	Stack Monitoring Kit	6 (Six)	ZOV-2, ZOS-1, ZOK-1 ZOBH-1, ZOL-1
LCB-38	Spectrophotometer	4 (Four)	WL-2, POA-2
LCB-39	Standard Weight (Traceable to NIST)	3 (Three) set	ZOBH-1, ZOV-1, POA-1
LCB-40	Stirrer with RPM Indicator (>150 Ltr)	3 (Three)	WL-3
LCB-41	Theodolite	1 (One)	ZOK-1
LCB-42	Teflon Coated Container	4 (Four)	WL-4
LCB-43	Turbidity Meter	2 (Two)	WL-2
LCB-44	Ultrasonic Pipette Cleaner	2 (Two)	BL-1, ZOK-1
LCB-45	VOC Sampler	5 (Five)	ZOK-5
LCB-46	Water Purifier without RO system	1 (One)	BL-1
LCB-47	Water Purifier with RO system	2 (Two)	ZOK-2
LCB-48	Zero Grade Nitrogen (N_2) Gas (Certified) with Cylinder	5 (Five)	ZOL-1, ZOK-1, ZOB-1, ZOV-1, AL-1
LCB-49	Zero Air Gas (Certified) with Cylinder	5 (Five)	ZOL-1, ZOK-1, ZOB-1, ZOV-1, AL

Abbreviations:

AL = Air Laboratory, HQs Delhi
TOL = National Reference Trace Organics Laboratory; HQs Delhi
IL = Instrumentation Laboratory; HQs Delhi
WL = Water & Wastewater Laboratory; HQs Delhi
BL = Bio-Science Laboratory; HQs Delhi
ZOL = Zonal Office – Lucknow;
ZOK = Zonal Office – Kolkata
ZOV = Zonal Office – Vadodara
ZOBH = Zonal Office – Bhopal
ZOS = Zonal Office – Shillong
ZOB = Zonal Office – Bangalore
POA = Project Office – Agra

ANNEXURE - VI

PRE CONTRACT INTEGRITY PACT

General

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on …….day of the month of ……2013, between, CPCB, An autonomous body acting through Shri ……., (Designation of the officer, Ministry/Department, Government of India) hereinafter called the "BUYER", which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns of the First Part and M/s…… represented by Shri……., Chief Executive Officer (hereinafter called the "BIDDER / SELLER" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BUYER proposes to procure (Name of the Stores/Equipment/Item) and the BIDDER/Seller is willing to offer/has offered the stores and

WHEREAS the BIDDER is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the BUYER CPCB work under the aegis of Environment & Forests, performing its functions as per the provisions of Water Act 1974, Air Act ,1981 and EPA Act, 1986.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to :-

Enabling the BUYER to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERs to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

Commitments of the BUYER

1.1 The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

1.2 The BUYER will, during the pre-contract stage, treat all BIDDERs alike, and will provide to all BIDDERs the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERs.

1.3 All the officials of the BUYER will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

2. In case any such preceding misconduct on the park of such official(s) is reported by the BIDDER to the BUYER with full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case while an inquiry is being conducted by the BUYER the proceedings under the contract would not be stalled.

Commitments of BIDDERs

2. The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-

3.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.

3.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the Government.

3.3* BIDDERs shall disclose the name and address of agents and representatives and Indian BIDDERs shall disclose their foreign principals or associates.

3.4* BIDDERs shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.

3.5* The BIDDER further confirms and declares to the BUYER that the BIDDER is the original manufacture/integrator/authorized government sponsored export entity of the defence stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

3.6 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BUYER or their family members, agents,

brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.

3.7 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

3.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.9 The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.

3.10 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

3.11 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.12 If the BIDDER or any employee of the BIDDER or any person action on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the BUYER, or alternatively, if any relative of an officer of the BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filling of tender.

3.13 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER.

3. Previous Transgression

4.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.

4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

4. Sanctions for Violations

5.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the BUYER to take all or any one of the following actions, wherever required:-

(i) To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER (s) would continue.

(ii) The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the BUYER and the BUYER shall not be required to assign any reason therefore.

(iii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.

(iv) To recover all sums already paid by the BUYER, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.

(v) To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.

(vi) To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation/rescission and the BUYER shall be entitled to deduct the amount so payable from the money (s) due to the BIDDER.

(vii) To debar the BIDDER from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the BUYER.

(viii) To recover all sums paid in violation of this Pact by BIDDER (s) to any middleman or agent or broker with a view to securing the contract.

(ix) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER, the same shall not be opened.

(x) Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

5.2 The BUYER will be entitled to take all or any of the actions mentioned at para 6.1 (i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

5.3 The decision of the BUYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent Monitor (s) appointed for the purposes of this Pact.

6. **Fall Clause**

6.1 The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the BIDDER to any other Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to the BUYER, if the contract has already been concluded.

7. **Independent Monitors**

7.1 The BUYER has appointed Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission (Names and Addresses of the Monitors to be given).

7.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

7.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

7.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.

7.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the BUYER.

7.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/Subcontractor(s) with confidentiality.

7.7 The BUYER will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.

7.8 The Monitor will submit a written report to the designated Authority of BUYER/Secretary in the Department/ within 8 to 10 weeks from the date of

reference or intimation to him by the BUYER / BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

8. **Facilitation of Investigation**

In case of any allegation of violation of any provisions of this Pact or payment of Commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

9. **Law and Place of Jurisdiction**

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat/place of the BUYER.

10. **Other Legal Actions**

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

11. **Validity**

11.1 The validity of this Integrity Pact shall be from date of its signing and extend upto 5 years or the complete execution of the contract to the satisfaction of both the BUYER and the BIDDER/Seller, including warranty period, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

11.2 Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shal remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

12. The parties hereby sign the Integrity Pact at ……on……..

BUYER	BIDDER
Name of the Officer. Designation Deptt./ MINISTRY/PSU	CHIEF EXECUTIVE OFFICER
Witness	Witness
1…….	1……
2…….	2……

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF AUTOCLAVE (VERTICAL) STAINLESS STEEL

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-1			
Equipment Name: Autoclave (Vertical) Stainless Steel			
Quantity: 4 (Four) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Vertical Stainless steel Autoclave for sterilization of microbiological media etc.	
2.0	Stranded working chamber size	45 x 250, 500 x 300, 550 x 350 (all Dimensions in mm)	
3.0	Height x Dia	600 x 450, 750 x 550 (all Dimensions in mm)	
4.0	Interior	Thick gauge non Magnetic SS-304, arc welded	
5.0	Exterior	Stainless steel sheet	
6.0	Chamber	Triple walled construction with an additional SS steam jacket for dry sterilization process	
7.0	Mounting	On sturdy legs	
8.0	Insulation	Glass wool	
9.0	Lid	Mild Steel Plate Lid Lined with SS-304 sheet	
10.0	Locking	Radial Locking System	
11.0	Loading	Top Loading , Optional SS-304 Perforated basket	
12.0	Sealing	Resilient Neoprene Rubber Gasket	
13.0	Front Panel	Toggle Switches, Pressure Control Switch, Indicator light Release Valves, Pressure Gauge	
14.0	Water Level	Water level with Gauges glass	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-1			
Equipment Name: Autoclave (Vertical) Stainless Steel			
Quantity: 4 (Four) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
15.0	Drainage system	Drain Pipe with Cap	
16.0	Pedal Lifting Device	Foot Pedal for easy Lifting of Lid	
17.0	Steam Release	By handset valve	
18.0	Safety Valve	For exhaust of excessive stream from chamber	
19.0	Range	5 to 20 psi	
20.0	Tested	Hydraulically	
21.0	Control	Pressure Gauge (Peizo Stat)	
22.0	Display	Pressure Gauge, Temperatime Gauge	
23.0	Readability	1 psi	
24.0	Heater	Flanged type immersion water	
25.0	Other features	Safety Locking System (SLS) to prevent opening of lid when chamber is under pressure.	
		Timer Analog or Digital for setting Sterilization Time Cycle.	
		Automatic Low Water Cut Off Device	
26.0	Temperature Gauge	Digital.	
27.0	Calibration certificate	The pressure and temperature gauge should be calibrated from NABL recognized calibration laboratory and calibration certificates to be provided alongwith the Autoclave.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF AUTO TITRATOR

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-2			
Equipment Name: Auto Titrator			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Microprocessor based automatic potentiometric titrator with fixed / variable volume dosing operating in various titration modes.	
2.0	Technical Specifications		
	Titration mode	Three modes of titration: Blank / Normality / Sample	
	Filling and rinsing operation.	Automatic	
	Stirrer	Speed adjustable stirrer with Teflon rod.	
	Interface	Maximum precision with high resolution measuring interface.	
	Display	Large graphical, alphanumeric display with backlite.	
	Function	Millivolt and pH	
	Calculation features	Formulae for normality, %, ppm etc.	
	Measuring range	0 – 14 pH, -1999 to + 1999 mV	
	Calibration	Three / five point calibration for pH	
	Facilities	Time, date and titration no. facility	
	Printer interface	USB	
	Burette volume	20 ml	
	Dosing and Stirring function	Manual measuring, dosing and stirring	
	Accessories	Additional vessel stand, glass titration vessels, combination pH electrode, interchangeable burette, electrode, cables, cords, printer keyboard, mouse, PC interface and operation manual.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF BIO-SAFETY CABINET

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-3			
Equipment Name: Bio-Safety Cabinet			
Quantity: 3 (Three) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Laminar Flow Bench Type	Horizontal Laminar flow confirming to class 100 conditions of the U.S. Federal Standard 290 B to provide an environment, where air supply is free of bacteria, fungi, pollen and practically all air borne dirt.	
2.0	Material of construction	Main body and Rear Panel should be perfectly electro galvanized steel or mild steel, oven baked epoxy powder coated finish	
3.0	Front & Side Door	Made up of transparent thick Perspex sheet or UV resistant thick poly-carbonate sheet.	
4.0	Work Table	Work Table with work top of Stainless Steel 304	
5.0	Work Table size	120 cm x 60 cm x 60 cm	
6.0	Principle	Double filtration of Air	
7.0	Pre-filters	Pre filters of dry fiber washable type with frame on all sides confirming to the international standards 209E	
8.0	HEPA filters	HEPA filter with atleast 99.97% efficiency for particulates of 0.3 micron or larger size on all the sides. Made up of glass fiber with pleats back and fro in an anodized aluminium frame. DOP tested for leaks and certified	
9.0	Air Flow output	90 ± 20 FPM (feet per minute)	
10.0	Pressure Display	Preferably Digital static pressure indicator for air flow measurement (Option: In case, it could not be supplied then inclined static pressure manometer for air flow measurement may be quoted).	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-3			
Equipment Name: Bio-Safety Cabinet			
Quantity: 3 (Three) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
11.0	Noise level	Less than 65 db on `A' scale at work area	
12.0	Fluorescent Lamp / UV Lamp	Normal working fluorescent lights 120 cm length.	
		The light intensity should exceed 800 – 1000 Lux / 75-90 feet candles at work area.	
		Imported germicidal ultraviolet light of Philips (Holland) or reputed make.	
		UV light intensity >40 micro watt / sq. cm over the work area.	
13.0	Vibration	Less than 0.00005 cm average displacement of work table	
14.0	Motor Blower	Dynamically balanced Heavy duty 0.25 HP or more high RPM electric motor blower assembly operating on 230 ± 10 V AC / 50 Hz power supply	
15.0	Gas cock / burner, switches & Indicator	Provision for gas cock / burner. Industrial switches and Indicator lamps for blower motor fluorescent lamp and UV lamp.	
16.0	Accessories	One no. additional Ultra Violet Lamp, spare digital static pressure display, spare Air / Vacuum petcock, burner. Technical / Maintenance Manual in English to be provided.	
170.	Calibration / Certification	The HEPA filter and Digital pressure meter should be certified / calibrated from NABL Accredited or equivalent Calibration Laboratory. The certificates be provided along with the equipment. The laminar flow bench should be calibrated for Particle Count within flow bench area from NIST certified / NABL Accredited Calibration Laboratory.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF BACTERIOLOGICAL (MICROBIOLOGICAL) INCUBATOR

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-4			
Equipment Name: Bacteriological (Microbiological) Incubator			
Quantity: 4 (Four) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Inside chamber size	450 mm x 450 mm x 450 mm	
		605 mm x 910 mm x 605 mm	
2.0	Construction	Double walled with inside wall made of thick stainless steel and outside wall made of mild steel furnished in durable white enamel paint. The space between the walls should be atleast 75 mm thick and packed with pure white glass wool.	
3.0	Door	Door should have double glass viewing window of size adequate enough to permit observations without disturbing the thermal conditions.	
4.0	Heating elements	Should be located at appropriate locations to enable temperature controls through a built-in air circulating fan.	
5.0	Thermostat	From room temperature to 70 ^{0}C with a sensitivity of ± 0.2 ^{0}C in the entire temperature range.	
6.0	Thermometer	Built-in Digital Thermometer with adequate indicator	
7.0	Ventilation	Two adjustable air ventilators located near the top of the sides.	
8.0	Operation	230 ± 10 V 50 Hz AC power.	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-4			
Equipment Name: Bacteriological (Microbiological) Incubator			
Quantity: 4 (Four) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
9.0	Other items	Should be complete with pilot lamp, atleast three perforated stainless steel sheet shelves adjustable at any levels, power cable and plug.	
10.0	Calibration / certificate	Should be calibrated for temperature from National / International Calibration Laboratory and supplied with calibration certificate	
11.0	Warranty	Comprehensive warranty for three years.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF BOTTLE COOLER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-5			
Equipment Name: Bottle Cooler			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Vertical wheel mounted, refrigerated cooler with vacuum sealed thick glass front door with forced draft cooling.	
2.0	Temperature	+ 4 ^{0}C to 5 ^{0}C	
3.0	Cooling	Forced refrigeration CFC free (R-134 a) maintaining standard uniform cooling	
4.0	Capacity	300 litre or more	
5.0	Front door	Vacuum sealed 5 mn thick glass, self closing	
6.0	Exterior & Interior	Powder coated / galvanized steel	
7.0	Shelves	Three Nos. thick glass adjustable Shelves	
8.0	Internal light	Energy efficient internal light	
9.0	Energy Efficiency	Energy efficient	
10.0	Power Supply	230 ± 10V, 50 Hz AC	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF BOD INCUBATOR

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-6			
Equipment Name: BOD Incubator			
Quantity: 5 (Five) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Digital display, vertical BOD incubator for incubation of environmental samples for measurement of Biochemical Oxygen Demand having both cooling and heating facilities.	
2.0	Construction	Triple walled construction	
		Outer Body made of Mild Steel with white Powder coated enamel.	
3.0	Shelves	Three adjustable Stainless Steel Perforated Shelves	
4.0	Glass Door	Full view inner toughened Glass door with Aluminium Frame closes on a resilient gasket and permits inspection of the specimens, without disturbing the thermal conditions of the chamber.	
5.0	Mounting	Cooling Unit is placed on heavy duty Iron angle Frame below the Chamber with Castor wheel.	
6.0	Door	Door with Magnetic Gasket and Lock & Key arrangement.	
7.0	Inside chamber	Stainless Steel with ribs for adjusting perforated shelves at convenient Illumination Lamp (15 W) will be provided inside the Chamber	
8.0	Inside chamber size (HxWxD)	Height. 900 mm x 580 mm x 650 mm	
9.0	Inside chamber capacity	0.339 cubic meter (12 cubic ft.)	
10.0	Insulation	75 mm gap between the walls is filled with PUF Insulation to avoid thermal loss.	
11.0	Temp. Range	5 - 60 ^{O}C, with an accuracy of ± 0.2 ^{O}C or better	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-6			
Equipment Name: BOD Incubator			
Quantity: 5 (Five) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
12.0	Temp. Control	Temperature is controlled by LCD Display Touch Panel with Digital. Temperature Controller cum Indicator with pt-100 sensor with real time / Date display	
13.0	Cooling	Hermetically sealed, high performance CFC Free Compressor (Emerson or equivalent) with its protective device, works efficiently to cool the chamber. Cooling coils are distributed evenly & lie in the air circulation path.	
14.0	Heating	Fins Type Heating elements (ISI Marked) are placed in the path of moving air duly insulated from sheet body.	
15.0	Blower	Air is circulated by a couple of self cooling Motor with fans to keep the temperature uniform throughout the inner chamber.	
16.0	Recorder	Temperature recorder with USB port for downloading the data on to computer. Data display in table and graph format	
17.0	Electric Supply	230 ± 10 V AC, 50 Hz	
18.0	Accessories	Supplied complete with Voltage Stabilizer, Instruction manual, Calibration Certificate from NABL Accredited Calibration Lab for Temperature control of B.O.D. Incubator	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF CENTRIFUGE

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-7			
Equipment Name: Centrifuge			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Material	Steel body, table top model, Compact and corrosion Resistant with see through acyclic lid	
2.0	Speed	Max. 15,000 rpm	
3.0	Centrifugal force (RCF)	Max 18000 xg	
4.0	Centrifuge Tube Size	Max. 100 ml	
5.0	Capacity	Max. 400 ml	
6.0	Rotary angle head	8 X 50 ml	
7.0	Speed Regulation	Stepless with zero start switch	
8.0	Speed meter	Continuous reading tape	
9.0	Timer	upto 60 minutes and adjustable	
10.0	Temperature range	Ambient	
11.0	Display multifunctional	LCD	
12.0	Power Supply	230 ± 10 V 50 Hz AC power	
13.0	Protection	Auto shut down for imbalance	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-7			
Equipment Name: Centrifuge			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
14.0	Other Features	Microprocessor controlled	
		Door safety lock	
		Auto magnetic rotor identification	
		Induction drive	
		Fast stop facility	
15.0	Accessories	Operation manual – One	
		Voltage stabilizer – One	
		Dust cover	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF COD ASSEMBLY (DIGESTER)

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-8			
Equipment Name: COD Assembly (Digester)			
Quantity: 8 (Eight) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Solid state COD digestion unit complete with required accessories for digestion of environmental samples for measurement of Chemical Oxygen Demand (COD).	
2.0	Heating Unit	Solid State block heater unit accommodating 15 nos. 38 mm diameter reaction vessels	
3.0	Reaction vessels	38 mm diameter glass reaction vessels with 20 ml. sample size – set of 15 nos.	
4.0	Heating temperature	150 ^{0}C ± 1 ^{0}C	
5.0	Temperature control	PID based Digital Controller	
6.0	Temperature Indicator	LCD Display indicator with date and time	
7.0	Air condenser	15 Nos. air condensers suitable for fitting in glass reaction vessels	
8.0	Timer	Digital timer with buzzer	
9.0	Power supply	230 ±10 V 50 Hz AC	
10.0	Accessories	Two additional sets of 15 Nos. glass reaction vessels and 15 Nos. air condensers (Optional)	
		Calibration Certificate from NABL Accredited Lab to be provided for calibration of Temperature Control	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS COLONY COUNTER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-9			
Equipment Name: Colony Counter			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Display	4 Digits, 9999 max. count	
2.0	Dish Size of diameter	110 mm	
3.0	Approx. Dimension	L 250 X B 300 X H 150 mm (approx.)	
4.0	Magnification	1.7 x	
5.0	Operating Power	230 V ± 10 V 50 Hz AC	
6.0	Marking Pen	1 No. installed with instrument and two Nos. spares	
7.0	Magnifier lens	Minimum 110 mm diameter	
		Audible confirmation of each count	
		Should have uniform glare free illumination	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF COMPOUND MICROSCOPE

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-10			
Equipment Name: Compound Microscope			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Microscope Stand	It should have adjustment by vertical movement of the nosepiece by means of coaxial coarse and fine adjustment kinds.	
		Stage should be fixed.	
		Roller guide stroke (from the focal point on the stage surface)	
2.0	Stage:		
	Cross movement	Atleast 20 cm x 20 cm minimum	
	Stage Area & Controls	Traversing area 5 cm x 5 cm with low positioned Coaxial control knobs,	
		Provision for accommodation of various culture vessels and specimen holders, sadgwick rafter counter, slides of various dimensions, watch glass etc.	
3.0	Illumination		
	Light source	Halogen bulb 12 V, 50 Watt with bulb cantering device and light intensity control	
	Filter holder	Provision for 4 flip-up filter holders green, light blue interference filter and frosted filter	
	Condenser Holder	It should be Flip-up or swing out type	
4.0	Observation System	Light path for photomicrography, 3 setting positions, linked with focusing reticles for observation tube, 35 mm camera & multi-tube	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-10			
Equipment Name: Compound Microscope			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
		mounting part	
		Binocular tube inclined 45 ^{0}C inter papillary distance adjustment from 55 mm to 75 mm constant tube lense	
		Eyepiece 5 x; 10 x	
		Multi tube light path, provision for photomicrographic equipment directly as well as the multi-tube attachment	
		Spare bulbs – 6 Nos.	
5.0	Condenser	There should be working distance furret condenser light annuli for 4x, 10x, 20x, 40x, 100x objectives, oil immersion.	
6.0	Objectives	Phase contrast objectives	
		4x	
		10x	
		20x	
		40x	
		100x	
		With case and cover	
7.0	Additional item to be supplied	Spare set of Eyepieces – 1 No.	
		Spare set of objectives – 1 No.	
8.0	Guarantee / Warranty	Comprehensive guarantee / warranty should be valid for three years.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF CONDUCTIVITY METER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-11			
Equipment Name: Conductivity Meter			
Quantity: 6 (Six) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.	**Description**	Light weight, Bench top, Sensitive microprocessor controlled digital conductivity Meter having dual power operating facilities (220 ± 10 V online power and 9 V batteries) with all accessories, standards (NIST Traceable) etc.	
2.	Size/weight	Light weight, Portable	
3.	Display	LCD, simultaneous display of Temperature and conductivity LCD display for the condition of electrode with an warning	
4.	Conductivity Range	0.0 to 199.9 µS 200 to 1999 µS 2.00 to 19.99 mS	
5.	Auto Ranging Resolutions for respective determination ranges	0.1µS (0.0 to 199.9 µS) 1µS (200 to 1999 µS) 0.01mS (2.00 to 19.99 mS)	
6.	Accuracy	± 2% (at Full Scale)	
7.	Temperature Range	0.0 to 50°C	
8.	Temperature Accuracy	± 0.50C	
9.	Resolution	0.1ºC	
10.	Offset	0.1 ºC increments	
11.	Calibration	Up to 3 points (push button; 1 point per range)	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-11			
Equipment Name: Conductivity Meter			
Quantity: 6 (Six) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
12.	Cell Constant	Theoretically 1.0, (Provide Internationally Traceable Calibration Certificate)	
13.	Temperature Compensation	Automatic, at 0.0 to 50.0 ºC	
14.	Reference Temperature	Factory set at 25 ºC	
15.	Temperature Coefficient	Factory set at 25 ºC	
16.	Buttons / Keys	ON/OFF, Measure (Cond.), CAL, ENTER, UP, DOWN and others	
17.	Inputs	BNC, Temperature Probe, Power, Reference etc.	
18.	Power	9V alkaline & also on 230 V ± 10 V 50 Hz AC	
19	Accessories	Power chord, Operation and service manual (2 copies each), Electrode stand (preferentially Flexible) , Beakers for calibration etc.	
20.	Standards	NIST traceable Standards for calibrations at all working ranges	
21.	Optional	Built in printing protocol for attachment of normal printer/ PC.	
		Password protection for multilevel operator	
		Memory Data Sets.	
		Self Diagnostic Messages.	
		Provision for LIMS Connectivity	
		RS232 C Interface to attach the normal printer / PC	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF DATA DISPLAY BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)				
Code Number: LCB-12				
Equipment Name: Data Display Board				
Quantity: 1 (One) No.				
S. No.	**Specifications**	**Requirement**		**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Size of display System	4 ft x 12 ft		
2.0	Visibility range	200 Meters (Day Time)		
3.0	Nos. of display Line	4		
4.0	Display of colour elements	Multi Colour (Red, Green and Yellow)		
5.0	Minimum life span of the system	10 Years		
6.0	Smallest Character Size	260 mm x 190 mm (approx.)		
7.0	Operating and Non Operating Temperature	0 – 50 ^{o}C		
8.0	Humidity Tolerance Range	0 – 100%		
9.0	Languages supported by the display	English & Hindi		
10.0	Color Gradient	Cluster LED based or any other equivalent		
11.0	Display Characters (Example):			
	Parameters	Concentration (µg / m^3)	Standard Limit (µg / m^3)	
	Particulate Matter (PM)	400	200	
	RSPM	160	100	
	SO_2	35	80	
	NO_2	79	80	
	CO	3320	2000	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-12			
Equipment Name: Data Display Board			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
		The display of above data should be supported with moving messages / slogans to be changed from time to time	
12.0	Input Power requirement	Cluster LED based or any other equivalent	
13.0	Display Mounting	Weather proof casing to cope up with Delhi's environment	
14.0	Computer	For operation control and monitoring of UV – Spectrophotometer and accessory modules	
	Make	Reputed brand such as HP/Compaq/Dell	
	Processor	Intel Core i7 (3rd Generation) processor	
	RAM	4 GB DDR RAM (upgradeable to 8 GB DDR RAM)	
	HDD	500 GB SATA	
	Monitor	21" TFT-LCD Flat Colour (Digital)	
	DVD Writer	DVD- Multi-drive	
	Ports	2 Serial, 1 parallel and 2 USB front 3 Rear USB 2 Port, 1VGA 4 bays (2 external & internal) with LAN 1PS, 2 mouse port	
	Key board	Latest multimedia (HP / Microsoft)	
	Mouse	Optical mouse with pad	
	Ethernet	32 bit auto selectable 10/100 MBPS	
	Graphics	Internet ready with integrated Graphics	
	Sound	Integrated sound card and inbuilt stereo speakers	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-12			
Equipment Name: Data Display Board			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
	Printer	HP LaserJet Printer 1200 x 1200 dpi 12 PPM black	
	Softwares	Pre-loaded Windows 7 Professional operating system with Licensed CD	
		MS Office 2010 Professional with media, manual and Licensed CD	
		Pre-loaded Norton Antivirus with latest version of 3 years lifetime along with Licensed CD	
15.0	General	Display system should be capable to transfer data from computer to Display Board through Modem. The system should also have the facility to display the environment messages, environmental picture through video camera / VCR / CD Player etc. for public awareness.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF DEEP FREEZER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-13			
Equipment Name: Deep Freezer			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Front loading vertical Deep Freezer fabricated with galvanized steel externally, inside chamber fabricated from stainless steel.	
2.0	Capacity	More than 350 liters	
3.0	Temperature range	+ 2 ^{0}C to 12 ^{0}C	
4.0	Compressor	Energy efficient quite in operation	
5.0	Refrigerant	CFC Free, environmental friendly R-134a	
6.0	Shelves	Atleast 3 or more glass / stainless steel adjustable	
7.0	Features	Provided with drain for condensate water outlet and cleaning of compartment	
		Door double lid with lock & key	
		Strong castor wheel mounted	
8.0	Power supply	230 ± 10 V, 50 Hz AC single phase	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF DEHUMIDIFIER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-14			
Equipment Name: Dehumidifier			
Quantity: 4 (Four) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Portable Dehumidifier for de-humidification in a room to control humidity.	
2.0	Type	Vertical type portable dehumidifier	
3.0	Capacity	Atleast 1.5 tonne	
4.0	Body	Powder coated / galvanized steel	
5.0	Compressor	Reputed make Kirloskar / Elgi / Ingersoll Rend with inbuilt internal overload protector and noiseless performance.	
6.0	Power supply	230 ± 10 V 50 Hz AC	
7.0	Drain connection	Stainless steel tank / galvanized tank	
8.0	Humidistat	Digital humidistat, settable at desired humidity value	
9.0	Interconnection	Interconnection copper tubings	
10.0	Automatic Cut Off	Automatic Cut Off & Cut in approx. at 40 ± 5% humidity setting.	
11.0	Other features	Water	
		Slide out washable filter	
		Hose Connect	
		Reliable mechanical control	
12.0	Guarantee	Three years comprehensive.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF DIGITAL BAROMETER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-15			
Equipment Name: Digital Barometer			
Quantity: 5 (Five) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Range	35 to 1310 mbar absolute, barometric	
2.0	Accuracy	+0.02% FS	
3.0	Units	Mbar, hpa, in mmHg. Altitude values in feet (ft) or metres (m).	
4.0	Readout	999999 capability – LCD display with 16 text characters	
5.0	Resolution	0.01 mbar	
6.0	Operating Modes	Local pressure (QFE)	
		Sea Level Pressure (QFE) from user set height	
		Altitude above sea level	
7.0	Stability	Better than 100 ppm (0.01% FS) per annum	
8.0	Operating temp.	-10 ^{0}C to 50 ^{0}C	
9.0	Power supply	Alkaline batteries: Auto power off & battery low indicator.	
10.0	Calibration	The system shall have both internal and external calibration facility	
11.0	Calibration certificate	The system shall be supplied with calibration certificate traceable to National / International standards	
12.0	Additional Items	Operation & maintenance manual	
		Rechargeable batteries & Charger cum AC Adapter	
		Calibration certificate from manufacturer	
		Transit carrying case	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF DISSOLVED OXYGEN (DO) METER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-16			
Equipment Name: Dissolved Oxygen (DO) meter			
Quantity: 3 (Three) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Features	Water tight, impact resistant and corrosion resistant housing.	
		Mains (230 ± 10 V 50 Hz AC) through charging transformer and rechargeable battery operated	
		Built-in storage pocket for Dissolved Oxygen cell, stand / carrying handle and shoulder strap	
2.0	Control	Microprocessor with functions automatically controlled	
3.0	Modes	mg/l - % - ^{0}C	
4.0	Display	mg/l, % : LCD 3½ digit; ^{0}C: 3½ digit, both atleast 10 mm high	
5.0	Dissolved Oxygen Measuring range	0.0 to 50 mg/litre; % saturation 0 to 600%	
6.0	Accuracy	0.5% ± 2 digit of measuring value (0.01 level)	
7.0	Temperature compensation	0 to 50 ^{0}C	
8.0	Atmospheric correction pressure	Automatically by integrated pressure sensor	
9.0	Salinity Correction	0 to 40% salinity	
10.0	Temperature measurement range	0 to atleast 50 ^{0}C	
11.0	Ambient temperature	upto 50 ^{0}C	
12.0	Calibration	Should be automatic and precise in water vapour saturated air / in water, saturated with oxygen.	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-16			
Equipment Name: Dissolved Oxygen (DO) meter			
Quantity: 3 (Three) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
13.0	Oxygen Electrode	Membrane covered amperometric oxygen electrode, suitable for measurement of Dissolved Oxygen in water upto 2 m depth	
		Should be zero current free and pressure resistant.	
		Should be provided with calibration and maintenance kit and storage holder	
14.0	Additional accessories	Funnel set, stirring accessory, fixing ring, operational manual, dust cover, power cable, 2 meter electrode cord, charger for Battery (230 ± 10 V 50 Hz) and plug with spare and maintenance parts for 2 years of continuous operation.	

:

:

:

:

:

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF DISTILLATION UNIT FOR PHENOLS (WELL EQUIPPED WITH COOLING FACILITY)

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-17			
Equipment Name: Distillation Unit for Phenols (well equipped with cooling facility)			
Quantity: 6 (Six) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Glass distillation unit with required accessories for distillation of environmental samples for measurement of phenols.	
2.0	Construction	Consist of complete Borosilicate Glass parts, Round Bottom Flask (1000 ml & 500 ml capacity – 2 Nos. each), Graham Condenser, Adopter and Receiver should have sufficient length of tubing temperature assembly	
3.0	Heating mantle	Heating Mantle of suitable capacity with Energy Regulator and Indicator. Maximum element temperature 500 ^{0}C; operation 230 ± 10 V 50 Hz AC	
4.0	Metallic stand	Metallic Stand should be provided with 2 Nos. Burette clamps.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF DISTILLATION UNIT FOR CYANIDE (WELL EQUIPPED WITH COOLING FACILITY)

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-18			
Equipment Name: Distillation Unit for Cyanide (well equipped with cooling facility)			
Quantity: 5 (Five) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Glass distillation unit with required accessories for distillation of environmental samples for measurement of Cyanide.	
2.0	Construction	Consist of complete Borosilicate Glass parts, Round bottom Flask (100 ml & 500 ml capacity – 2 Nos. each), Graham Condenser, Adopter and Receiver should have sufficient length of tubing, temperature assembly.	
3.0	Heating mantle	Heating Mantle of suitable capacity with Energy Regulator and Indicator Maximum element temperature 500 0C; operation 230 ± 10 V 50 Hz AC	
4.0	Metallic stand	Metallic Stand should be provided with clamps.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF FLAME PHOTOMETER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-19			
Equipment Name: Flame Photometer			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Digital, microprocessor controlled Flame Photometer for measurement of alkali and alkaline earth metals by Flame photometry technique in various matrices of environmental samples based metal (only sodium and potassium)	
2.0	Measuring Range	Sodium element – Lower concentration range 10 ppm without dilution; Higher concentration range 100 ppm without dilution	
		Potassium element – Lower concentration range 10 ppm without dilution; Higher concentration range 100 ppm without dilution	
3.0	Display	4 lines alphanumeric LCD readout with record for date & time	
4.0	Sensitivity	Sodium – 2 ppm or less	
		Potassium – 1 ppm or less	
5.0	Detector	Photo conductive cell	
6.0	Minimum Detection limit	Sodium – 0.2 ppm	
		Potassium – 0.1 ppm	
7.0	Filters	Typical 10 mm for sodium and potassium with automatic filter selection facility	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-19			
Equipment Name: Flame Photometer			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
8.0	Reproducibility	Low concentration ± 1% full scale	
		High concentration ± 2% full scale	
9.0	Operating Air pressure	0.45 kg/cm^2	
10.0	Fuel gas	LPG	
11.0	Output	RS-232 interface with printer	
12.0	Power supply	230 ± 10 V, 50 Hz AC	
13.0	Air Compressor	Oil free air compressor, built in air regulator and air filter to provide stable moisture free air supply	
14.0	Warranty	Comprehensive warranty for at least 3 years	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF FILTRATION UNIT

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-20			
Equipment Name: Filtration Unit			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Filter Holder		
	Material	Stainless steel lid, funnel, base, clamp and filter support.	
	Funnel	Stainless steel, 316 grade funnel, 47 mm dia, 650 ml capacity	
	Connections	Outer diameter of base outlet 10 mm.	
	Operating pressure	Vacuum only	
2.0	Vacuum Pump		
	Capacity	1.2 cfm (34 L/Min.), free air capacity	
	Type	Piston vacuum pump type	
	Vacuum hold	Vacuum hold, 27.2 inches	
	Pressure	102 psi	
	Wetted Part material	PPSE / Stainless Steel	
	Vacuum Pressure Monitor	Analog	
	Pump Protection	By FA 50 filter	
	Duty cycle	Continuous heavy duty	
	Power Supply	230 ± 10 V AC, 50 Hz	
	Operating Temp	Ambient to 50 ^{0}C	
3.0	Accessories	Complete with stopper, suction flask of 1 litre capacity, side arm flask (borosilicate glass), vacuum hose, stainless steel forceps, power cord with plug, and toggle switch.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF GLOBAL POSITIONING SYSTEM (GPS)

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-21			
Equipment Name: Global Positioning System (GPS)			
Quantity: 18 (Eighteen) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	The Global Positioning system should indicate and record the exact locations / points visited with a date-wise folder.	
2.0	Operating temperature	-10 ^{0}C to 50 ^{0}C.	
3.0	Data storage and display	Store and Digital Display Real Time positions in the portable device itself through secure digital SD card as well as in the Server and represent on the Indian Map.	
		Adequate Digital Data storage to enable GPS receivers to draw contour maps, plot the outré, Mark points of interest etc.	
4.0	Recording parameters	Time, Date, Location, Speed Heading, Latitude, Longitude and Altitude.	
5.0	Memory & Antenna	Built-in flash memory & multi directional Antenna	
6.0	Battery	Battery with a long life for storage of relevant information at least for few months.	
7.0	System features	System should be so designed as to cover entire country (India).	
		India's & World base map showing geographical boundaries should be in built with system and could support Multiple Indian Languages such as Hindi other than English.	
8.0	Warranty	Three years comprehensive warranty.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF GRINDING MACHINE

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-22			
Equipment Name: Grinding Machine			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Maximum feed particle size	10 mm	
2.0	Feed quantity	up to 225 ml	
3.0	Final fineness	less than 1 µm	
4.0	Operation	230 ± 10 V, 50Hz AC	
5.0	Weight	Light weight	
6.0	Dimensions W×D×H, approx.	37 cm × 53 cm × 50 cm	
7.0	Grinding vessel	Zirconium oxide, 95% ZrO_2 (approx.) / WC	
8.0	Grinding bowel / useful capacity	500 ml / 80 to 225 ml	
9.0	Balls for grinding	25 Nos. with 20 mm diameter (Additional set of balls with other diameters may be quoted)	
10.0	Other requirements	Should be provided with operational manual and dust Cover.	
		Should ensure safe operation and simple maintenance.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF HAND HELD TEMPERATURE AND RELATIVE HUMIDITY METER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-23			
Equipment Name: Hand Held Temperature and Relative Humidity Meter			
Quantity: 5 (Five) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	System may be individual or in combination for measurement of ambient temperature, relative humidity, pressure (optional), Individual parameters shall meet following Specification	
2.0	**AMBIENT TEMPERATURE**		
	Range	-10^0C to 60^0C	
	Accuracy	± 2^0C or better (with radiation shield)	
	Resolution	0.1^0C	
	Sensor type	Resistance type	
	Response time	10 sec or better	
3.0	**RELATIVE HUMIDITY**		
	Range	0 to 100% RH	
	Accuracy	± 3% or better	
	Resolution	1%	
	Sensor type	Capacitive/Solid state	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-23			
Equipment Name: Hand Held Temperature and Relative Humidity Meter			
Quantity: 5 (Five) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
	Response time	10 sec or better	
4.0	**PRESSURE**		
	Range (with single sensor)	600 to 1100 hPa	
	Accuracy	± 0.2 hPa or better	
	Resolution	0.1 hPa	
	Sensor type	Solid state	
	Response time	10 sec or better	
5.0	**POWER SUPPLY**	Rechargeable Battery operated with 230 ± 10 V, 50 Hz AC charger	
6.0	**CALIBRATION**	Inbuilt option for calibration as well as provision for external calibration	
		Should be provided with Calibration certificate traceable to International Standard	
7.0	**WARRANTY**	Comprehensive warranty for at least 3 years	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF HANDY SAMPLERS

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-24			
Equipment Name: Handy Samplers			
Quantity: 16 (Sixteen) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	The multigas portable rechargeable battery operated sampler for field monitoring and collection of ambient gaseous pollutants. The basic operation system should be contained in a single, light weight, compact, all non-corrosive stainless steel / anodized aluminium / FRP with built-in sampler pump, flow measuring rotameter and complete sampling train housing consisting of two glass impingers.	
2.0	Suction Pump	Built in Diaphragm type or Rotary vane pump	
3.0	Max vacuum	Adequate to generate required flow rate adjustable to 0.1 to 5 LPM	
4.0	Rotameter	0-5 lpm flow rate, calibrated with calibration certificate	
5.0	Timer (Battery operated)	3 digit display in minutes adjustable from 0 to 12 hrs.	
6.0	Running time	1 – 99 minutes	
7.0	Delay time	1 – 99 minutes	
8.0	Power Supply	230 ± 10 V AC, 50 Hz with suitable Battery charger and rechargeable batteries (2000 milli Ah)	
9.0	Continuous Run	10 hours with full charge	
10.0	Batteries Charge	Less than 15 hours	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-24			
Equipment Name: Handy Samplers			
Quantity: 16 (Sixteen) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
11.0	Sampling train	Suitable sampling head for filtration of particulate; Consisting of 4 sets of 35 ml, glass impingers kept in ice tray connected with superior quality Teflon / silicon tubing.	
12.0	Accessories	To be supplied complete with carrying case, spare glass impingers (2 sets), Power cord and operation & maintenance manual, All spares including filters, tubings should be provided for atleast 3 years of trouble free operation.	
13.0	Warranty	Three years warranty from installation date.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF HIGH TEMPERATURE THERMOCOUPLE WITH DIGITAL PYROMETER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-25			
Equipment Name: High Temperature Thermocouple with Digital Pyrometer			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Portable, compact digital Pyrometer with extended infrared sensor head for non-contact temperature measurement.	
2.0	Range	- 40º to 1999ºF (- 40º to 1100ºC)	
3.0	Resolution	1º C	
4.0	Accuracy	± 1%	
5.0	Digital display	4 digits, characters ½" high LCD	
6.0	Operating Temp	0º to 52ºC	
7.0	Power Supply	9V Rechargeable battery with appropriate 230 ± 10 V 50 Hz AC charger	
8.0	Battery Life	Atleast 100 hours	
9.0	Response Time	1-10 seconds	
10.0	Warm-up Time	Instantaneous	
11.0	Probe Cord Length	1.5 meters approx with steel jacket Coiled Cord detachable	
12.0	Sensor Probe length	6" to 8" steel casing with 5 to 6 mm outer diameter for laboratory use	
13.0	Sensor	Thermocouple K type	
14.0	Cold junction compensation	Automatic.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF HOT AIR OVEN (MEDIUM)

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-26			
Equipment Name: Hot Air Oven (Medium)			
Quantity: 6 (Six) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Internal Chamber Size	75 cm x 75 cm x 120 cm (L x W x H)	
2.0	Outer body	Powder coated Mild steel, white stoned enamel	
3.0	Inner chamber	Double wall construction inner chamber made of stainless steel	
4.0	Trays	4 Nos. stainless steel, perforated, adjustable	
5.0	Door	Single door fitted with heavy brass chrome plated hinges and door lock	
6.0	Cabinet	Cabinet double walled mild steel	
7.0	Insulation	Minimum thickness 5 cm of glass wool	
8.0	Air Circulation	Ventilated through internal fan with ISI mark motor to assist circulation of air	
9.0	Operating temperature range	Ambient to 300 ^{0}C	
10.0	Temperature control	Digital temperature controller cum indicator with accuracy of ± 0.5 ^{0}C, installation should be on top towards door side.	
		The supplier will have to provide Calibration Certificate for Digital Temperature Controller from NABL recognized Calibration Laboratory.	
11.0	Timer	Digital with range upto 999 minutes, installation should be at top towards door side, Automatic to control ON / OFF cycle.	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-26			
Equipment Name: Hot Air Oven (Medium)			
Quantity: 6 (Six) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
12.0	Power	230 ± 10 volts 50 Hz AC	
13.0	Heaters & Heating load	ISI marked heating elements 2 KW	
14.0	Ventilator	Two adjustable air ventilator on both upward side of the instrument	
15.0	Standard	The apparatus should confirm to IS: 6365-1971 (Reaffirmed 1995) with latest amendments in Indian Standard Specifications for Laboratory Electric ovens or equivalent International Standards covering marking, tests and safety requirements.	
16.0	Warranty	Minimum three years from date of Installation.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF HOT AIR OVEN (SMALL)

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-27			
Equipment Name: Hot Air Oven (Small)			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Internal Chamber Size	45 cm x 45 cm x 60 cm (L x W x H)	
2.0	Outer body	Powder coated Mild steel, white stoned enamel	
3.0	Inner chamber	Stainless steel	
4.0	Trays	03 Nos. stainless steel, perforated, adjustable	
5.0	Door	Single door fitted with heavy brass chrome plated hinges and door lock	
6.0	Cabinet	Cabinet double walled mild steel	
7.0	Insulation	Minimum thickness 5 cm of glass wool	
8.0	Air Circulation	Ventilated through internal fan with ISI mark motor to assist circulation of air	
9.0	Operating temperature range	Ambient to 300 ^{0}C	
10.0	Temperature control	Digital temperature controller cum indicator with accuracy of ± 0-5 ^{0}C, installation should be on top towards door side.	
		The supplier will have to provide Calibration Certificate for Digital Temperature Controller from NABL recognized Calibration Laboratory.	
11.0	Timer	Digital with range upto 999 minutes, installation should be at top towards door side, Automatic to control ON / OFF cycle.	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-27			
Equipment Name: Hot Air Oven (Small)			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
12.0	Power	230 ± 10 volts 50 Hz AC	
13.0	Heating load	ISI marked heating element 2 KW	
14.0	Ventilator	Two adjustable air ventilator on both upward side of the instrument	
15.0	Standard	The apparatus should confirm to IS: 6365-1971 (Reaffirmed 1995) with latest amendments in Indian Standard Specifications for Laboratory Electric ovens or equivalent International Standards covering marking, tests and safety requirements.	
16.0	Warranty Period	Minimum three years from date of Installation.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF HOT PLATE DIGITAL CONTROL

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-28			
Equipment Name: Hot Plate Digital Control			
Quantity: 13 (Thirteen) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	General	General purpose hot plate with digital electronic temperature controller cum indicator.	
2.0	Case Structure	Steel epoxy coated case for structural strength to support heavy loads	
3.0	Top Structure	Stainless Steel / Teflon coated top plate to resist physical abuse and thermal shock	
4.0	Size	600 mm X 450 mm	
5.0	Maximum Temperature	300 ºC	
6.0	Operating Temperature	Ambient to 300 ºC Selectable at any point	
7.0	Temperature Control	Digital electronic temperature controller	
8.0	Temperature Indicator	Digital display	
9.0	Temperature uniformity	± 10 °C	
10.0	Temperature stability	± 0.5 °C	
11.0	Heating Element	Embedded long lasting nichrome heating elements (2 KW) transfer heat across the entire top plate surface	
12.0	Accessories	Power cord ISI marked 2 meter each two sets with male and female plug	
13.0	Warranty	Minimum two years from the date of installation.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF MAGNETIC STIRRER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-29			
Equipment Name: Magnetic Stirrer			
Quantity: 4 (Four) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Heat adjustable, Magnetic Stirrer with stirring facility of Liquid using various sizes of immersible Teflon coated stirring magnetic bars.	
2.0	Speed range	100 to 1000 rpm	
3.0	Number of stirring position	One	
4.0	Maximum stirring volume	Two Liters	
5.0	Temperature range	25 to 200 ^{0}C	
6.0	Top plate material	Stainless steel / Ceramic	
7.0	Stirring magnetic bars / paddles	Teflon coated; 12 mm, 25 mm and 35 mm length – 6 Nos. each	
8.0	Power supply	230 ± 10 V 50 Hz AC	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF MECHANICAL SHAKER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-30			
Equipment Name: Mechanical Shaker			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Mechanical shaker for permanent and energetic shaking of liquid material contained in bottles, flasks, measuring cylinders, separating funnels etc. to ensure mixing and dissolution of substance.	
2.0	Approx. Dimension	580 mm (l) x 500 mm (w) x 120 mm (h)	
3.0	Shaking motion	Horizontal shaking top tray with to-and-fro (reciprocating) action	
4.0	Speed	Variable and electronically controlled speed adjustment with 30 to atleast 300 shaking strokes per minute.	
5.0	Speed indication	Digital	
6.0	Operation	Simple and continuous operation with timer providing pre-selection upto atleast 60 minutes or infinity.	
7.0	Housing	Should be resistant to aggressive liquids	
8.0	Mounting Unit	Mounting unit should be adjustable for shaking 50 ml to 500 ml Erlenmeyer flasks, volumetric or other flasks, reagent bottles etc.	
9.0	Power Requirement	230 ± 10 V, 50 Hz AC	
10.0	Accessories	To be supplied complete with power cable, plug and operation manual.	
11.0	Warranty	Comprehensive warranty for at least 3 years	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF MICROSCOPE (BINOCULAR AND ATTACHED DISPLAY SYSTEM)

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-31			
Equipment Name: Microscope (Binocular and attached display system)			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Binuclear microscope with electrical illumination for magnification and observation of bacteria, viruses, slides, biological material etc. with built-in / attached facility of display of magnified object.	
2.0	Objectives	Parfocalled, parcentered, achromatic	
3.0	Functions	Count, capture, measure, record, amalgamate, Internet meeting	
4.0	Illuminator	20 W halogen with rheostat	
5.0	Stage dimensions	145 mm x 135 mm, 76 mm x 50 mm movement range	
6.0	Pixel	640 x 480 with PCI card	
7.0	Resolution	320 x 240, 480 TV lines	
8.0	Shutter speed	30 fps	
9.0	Output	Digital	
10.0	Cable(s)	USB, RCA-Video, S-Video	
11.0	Data transfer	7.5 MB/sec	
12.0	Data formats	BMP, JPG, MIG	
13.0	Magnification	4x / 10x / 40x / 100x	
14.0	Power supply	230 ± 10 V AC, 50 Hz	
15.0	Accessories	Spare Halogen lamp – One; Spare Eyepiece Cable & plug	
16.0	Warranty	Comprehensive warranty for at least 3 years	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF MUFFLE FURNACE

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-32			
Equipment Name: Muffle Furnace			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Chamber Size	200 mm x 200 mm x 300 mm (L x W x H)	
2.0	Chamber	Heating chamber mounting of rectangular horizontal shape totally enclosed muffle	
3.0	Outer Body	Double Walled Construction with outer wall made of thick Stainless Steel Sheet	
4.0	Door	Double Walled Insulated Door with heavy hinges and Door Lock. View Cap should be available on the door	
5.0	Insulation	High Temperature Ceramic Fiber wool insulation.	
6.0	Temp. Range	Maximum 1200 ^{O}C. Working Temperature at 1100 ^{O}C.	
7.0	Controller	Digital Time Proportional Controller (PID Based) cum Indicator.	
8.0	Heaters	Concealed KANTHAL-A1 Wire Coil embedded on the Muffle with high grade refractory cement.	
9.0	Panel	With Mains & Heating Indicator, On/Off Switch, Digital Controller cum Indicator.	
10.0	Power	230 ± 10 V 50 Hz AC single phase.	
11.0	Warranty	Comprehensive warranty for at least 3 years	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF MULTI FILTRATION ASSEMBLY (4-5 DILUTION)

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-33			
Equipment Name: Multi Filtration Assembly (4-5 dilution)			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
A.	**Filter Holder**		
1.0	Material	Stainless steel lid, funnel, base, clamp and filter support of stainless steel perforated filter mesh with three places Manifold.	
2.0	Filter diameter	47mm	
3.0	Filtration Area	12.5 cm^2	
4.0	Funnel Capacity	Autoclavable Stainless Steel Body, 47 mm dia with 650 ml (Minimum) Capacity.	
5.0	Suction flask Capacity	1.0 / 2.0 litre	
6.0	Connections	Outer diameter of base outlet 10 mm.	
7.0	Operating pressure	Vacuum only	
B.	**Vacuum Pump**		
1.0	Type	Single phase motor with IP 44 type of protection, with carrying handle and sturdy rubber feet.	
2.0	Vacuum	Should be adequate for smooth filtration of water/waste water. The pump should be an oil free pump/diaphragm with continuous heavy duty type.	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-33			
Equipment Name: Multi Filtration Assembly (4-5 dilution)			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
3.0	Flow rate / Rating	15 LPM (Maximum) / 0.12 KW or I / 16 HP	
4.0	Supply Voltage	230 ± 10 Volts, 50 Hz, Single phase AC	
5.0	Operating Ambient Temperature	10 - 50 ^{O}C	
6.0	Accessories	Should be supplied complete with perforated Neoprene stopper, Vacuum hose pipes, stainless steel forceps, power cord with plug, toggle switch and operating manual with standard tool kit.	
7.0	Guarantee / Warranty	Comprehensive warranty for at least 3 years	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF PACKING AND SEALING MACHINES

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-34			
Equipment Name: Packing and Sealing Machines			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Packing and Sealing Machines comprising of four individual sub-units viz. Handing Sealer, Liquid Filling Machine, Powder Filling Machine and Box Strapping Machine (One No. each)	
2.0	**Handing Sealer - One No.**	Compact size and light weight sealing machine suitable for small packing.	
	Sealing and control	Impulse sealing with precise electronic control.	
	Sealing length	10 – 20 cm	
	Sealing width	1.5 mm	
	Power supply	230 ± 10 V 50 Hz AC	
3.0	**Liquid Filling Machine - One No.**	Capable of filling and packing of bottles	
	Filling capacity	50 ml to 1000 ml with change part	
	Diameter of the bottles that can be handled	215 mm to 250 mm	
	Height of the bottle that can be handed	250 – 350 mm	
	Power supply	230 ± 10 V 50 Hz AC	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-34			
Equipment Name: Packing and Sealing Machines			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
4.0	**Powder Filling Machine (Small Sachet) - One No.**	Compact, small sachet powder filling machine with following technical requirements	
	M/C Mechanism	Intermittent motion	
	Speed	65 – 70 stroke per minute	
	Sealing	4 side seal	
	Max Width Roll	1000 mm	
	Max Roll Diameter	600 mm	
	Reel Care Diameter	150 mm / 76mm	
	Packing weight limit	1 – 250 gms adjustable	
	Main Motor	3-4 KW, 3 Phase, 415 volt	
	Connected Load	10 KW	
	Air pressure	5-8 kg / cm^2	
	Air consumption	2-3 lit / Machine cycle	
5.0	**Box Strapping Machine - One No.**	Machine for Taping / Sealing of carton from top & bottom, both together	
	Features	Double motor drive for simultaneous box sealing from top/bottom.	
		Machine is to be equipped with rollers for smooth movement of boxes.	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-34			
Equipment Name: Packing and Sealing Machines			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
		Up down movement of the sealing assembly is by manual hand rotary crank	
		Different box size has to be accommodated	
	Height Adjustment	Adjustable height and width for different cartons.	
	Power supply	230 ± 10 V 50 Hz AC 0.66 KW	
	Poly Propylene tape width	6 – 15 mm	
	Minimum size of strapping article	60 mm	
	Operation steps	Box to be sealed is put on the in feed rollers and given a gentle push.	
		The motorized conveyor takes over and starts pulling the carton forward.	
		The top and bottom tape dispensers sticks the Bopp type cartons simultaneously along with rollers pressing the tape for a tight seal.	
		When the taping is over the cutter blades cut –off the tape & sealed cartons pass through to out-seed rollers for delivery.	
6.0	Warranty	Comprehensive warranty for at least 3 years for each unit	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF pH METER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-35			
Equipment Name: pH Meter			
Quantity: 6 (Six) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.	Description	Light weight, Bench top, Sensitive microprocessor controlled digital pH meter having dual power operating facilities (230 ± 10 V online power and 9 V rechargeable batteries) with all accessories, standards (NIST Traceable) etc.	
2.	Size/weight	Light weight, Portable	
3.	Display	LCD, simultaneous display of Temperature and pH	
		LCD display for the condition of electrode with warning display	
4.	pH Range	0.00 to 14.00	
5.	Accuracy :	± 0.01 pH	
6.	Resolution	0.01 pH	
7.	Calibration	Automatic 3 points calibration	
		1, 2 and 3 points calibration option at operator's desire for buffer values (pH 4.01,7.00,10.00) or at nearby points	
8.	Slope	80 - 120%	
9.	Electrode	Combined (glass/reference), composed of epoxy, Ag/AgCl	
10.	Temperature Range	0.0 to 5 ºC	
11.	Resolution	0.1 ºC	
12.	Accuracy	± 0.50 ºC	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-35			
Equipment Name: pH Meter			
Quantity: 6 (Six) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
13.	Temperature compensation	Automatic	
14.	Milli volt Range	± 1999.9	
15.	Accuracy	± 0.1 mV	
16.	Resolution	0.1 mV	
17.	Buttons / Keys	ON/OFF, pH/mV, CAL, ENTER, UP, DOWN Inputs : BNC, Temperature Probe, Power, Reference	
18.	Power	9V rechargeable batteries & online for 230 ± 10 V AC	
19.	Accessories	Power cord, Operation and service manual (2 copies each), Electrode stand (preferentially Flexible) , Beakers for calibration etc.	
20.	Electrode maintenance solution	Suitable electrode filling solution for at least 2 years hassle free operation	
21.	Standards	NIST traceable Standard buffers for 3 point calibration	
22.	Warranty	Comprehensive warranty for at least 3 years	
23.	Optional requirement	Password protection for multilevel operator	
		Memory Data Sets.	
		Self Diagnostic Messages.	
		Provision for LIMS Connectivity	
		RS232C Interface to attach the normal printer / PC.	
		Built in printing protocol for attachment of normal printer/PC.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF PM_{10} SAMPLER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-36			
Equipment Name: PM_{10} Sampler			
Quantity: 16 (Sixteen) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.	Flow Rate	Should be fixed, 1.0 Cubic meter / hr (16.7 LPM) controlled by Mass Flow controller.	
2.	Elapsed time Indicator	0 To 9999 Hours with two decimals.	
3.	Vacuum Pump	Diaphragm type with brush less motor.	
4.	Flow Reorder	Chart type and Memory based downloadable to computer and or manually displayed on screen.	
5.	Dry Gas Meter	Measurement for total volume of air sampled.	
6.	Flow rate compensation	Ambient Temperature & Pressure sensors to control volumetric low rate.	
7.	Power supply	230 ± 10V AC, 50 Hz AC	
8.	Size Selective inlets	Opposed jet impaction for PM_{10} Cut and Cyclonic	
9.	Special Features	System should have an option to be used for PM10 sampling.	
10.	Calibration Unit	Should be provided with calibration unit to calibrate the flow rate.	
11.	Accessories	Should be supplied by suppliers or manufacturer's O&M manual with standard operation kit including all required items, fittings & tools for start-up / operation.	
12.	Spares & Consumables	Spares & consumables for three year operation and Maintenance should be included.	
13.	Guarantee / Warranty	Comprehensive Guarantee / Warranty for three years.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF STACK MONITORING KIT

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-37			
Equipment Name: Stack Monitoring Kit			
Quantity: 6 (Six) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Stack Temperature Range	Ambient to 600°C displayed on a digital pyrometer	
2.0	Stack Velocity Range	3-60 m/s	
3.0	Particulate Sampling	2-60 lpm collection on thimble type filter up to 0.3 micron rating	
4.0	Gaseous Sampling	0.2-6 lpm collection in a set of Borosilicate glass impingers	
5.0	Overall Accuracy of Measurement	3%	
6.0	Thermocouple	Thermocouple sensor in SS 304 casing, length of insertion : 1m with 2m long cable (2m long Thermocouple available at extra cost)	
7.0	Manometer	Glass Borosilicate tube with spirit level attached for leveling	
8.0	Pitot Tube	Modified S-type pitot tube fabricated from SS 304, 1.5m in length, individually calibrated at IIT Delhi (1m, 2m, 4m available at extra cost)	
9.0	Rotameter	Plastic body rotameter with 2% FSD accuracy, 0-60 lpm for particulates and 0-6 lpm for gases	
10.0	Sampling Probes	Made from SS 304 tube, 1.5 m and 30 cm in length (1 m, 2 m and 4 m sampling probes may be quoted as options)	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-37			
Equipment Name: Stack Monitoring Kit			
Quantity: 6 (Six) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
11.0	Filter holder	Fabricated from SS 304 suitable to hold either cellulose filtration thimble (size 28mm ID X 100mm long) or glass micro fibre thimble (size 19mm ID X 90mm long)	
12.0	Nozzles	A set of 3 stainless steel nozzles	
13.0	Digital Clock	0-60 minutes, 1 second, readout with start and stop switches	
14.0	Sampling Train	5 Nos. of 275 ml capacity borosilicate glass impingers with Ball Socket glass joints accommodated in cold box made out of FRP with provision to keep ice	
15.0	Vacuum Pump	Rotary vane type, oil lubricated	
		Driven by 1/2 HP single phase motor (230V) with more than 100 Ipm free flow capacity,	
		0-25" Hg vacuum mounted inside a MS cabinet with caster wheel and MCB	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF SPECTROPHOTOMETER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-38			
Equipment Name: Spectrophotometer			
Quantity: 4 (Four) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Double beam digital microprocessor control automatic scanning spectrophotometer	
2.0	Light source	Tungsten-halogen and deuterium	
3.0	Wavelength range	190-1100 nm range	
4.0	Wavelength accuracy	better than or equal to ± 0.2 nm	
5.0	Wavelength repeatability	better than or equal to ± 0.1 nm	
6.0	Band pass range	2 nm or smaller	
7.0	Scan speed	5 to 3000 nm/min	
8.0	Photometric drift	0.0003 absorbance units/hour at 340 nm	
9.0	Slew speed	10,000 nm/min	
10.0	Power Requirement	230 ± 10 V 50 Hz AC	
11.0	Computer	For operation control and monitoring of UV – Spectrophotometer and accessory modules	
	Make	Reputed brand such as HP/Compaq/Dell	
	Processor	Intel Core i7 (3rd Generation) processor	
	RAM	4 GB DDR RAM (upgradeable to 8 GB DDR RAM)	
	HDD	500 GB SATA	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-38			
Equipment Name: Spectrophotometer			
Quantity: 4 (Four) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
	Monitor	21" TFT-LCD Flat Colour (Digital)	
	DVD Writer	DVD- Multi-drive	
	Ports	2 Serial, 1 parallel and 2 USB front 3 Rear USB 2 Port, 1VGA 4 bays (2 external & internal) with LAN 1PS, 2 mouse port	
	Key board	Latest multimedia (HP / Microsoft)	
	Mouse	Optical mouse with pad	
	Ethernet	32 bit auto selectable 10/100 MBPS	
	Graphics	Internet ready with integrated Graphics	
	Sound	Integrated sound card and inbuilt stereo speakers	
	Printer	HP LaserJet Printer 1200 x 1200 dpi 12 PPM black	
	Softwares	Pre-loaded Windows 7 Professional operating system with Licensed CD	
		MS Office 2010 Professional with media, manual and Licensed CD	
		Pre-loaded Norton Antivirus with latest version of 3 years lifetime along with Licensed CD	
12.0	Application Software	Software performing analysis as per DIN/ISO/US-EPA, calibration, blank correction, data import, data export, data handing and reporting , quality control protocols	
13.0	Accessories		
	Spare Parts	Essential spares parts for five year of operation	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-38			
Equipment Name: Spectrophotometer			
Quantity: 4 (Four) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
	Voltage stabilizer	One No. of required capacity	
	Dust cover	One set	
	Operation manual	One set	
	Matching cuvettes	Two pairs	
14.0	Guarantee / Warranty	Comprehensive Guarantee / Warranty for three years.	
15.0	General Conditions of Supply	(i) The instrument and all its sub units should operate on 230 $\pm$ 10 volts 50 Hz power supply. (ii) All the operation and maintenance manuals, circuit diagrams, application notes and application softwares to be supplied should be in English language. (iii) The supplier / manufacturer should have Indian agent to provide after sales service. (iv) The main unit and all the sub units of the instrument should be serviced by the Indian representative of supplier. (v) The Bidder should be a manufacturer/authorized representative of a manufacturer, who must have designed, manufactured, tested and supplied two numbers of such equipment similar to the type specified in the past five years, which shall be in successful operation for atleast 2 years as on the date of bid opening. (vi) The bidder should furnish the information on past supplies and their satisfactory performance. (vii) Bidders shall invariably furnish documentary evidence (client's	

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-38			
Equipment Name: Spectrophotometer			
Quantity: 4 (Four) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
		certificate – atleast two) in support of the satisfactory operation of the equipment as specified above. (viii) Notwithstanding anything stated above the purchaser reserves the right to assess the capability and capacity of the bidder to perform the contract, should the circumstances warrant such an assessment in the overall interest of the purchaser. (ix) Comprehensive warranty with spares for 3 years from the date of installation of the instrument should be covered.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF STANDARD WEIGHT (TRACEABLE TO NIST)

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-39			
Equipment Name: Standard Weight (Traceable to NIST)			
Quantity: 3 (Three) Set			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Weight range	1 mg to 200g (complete range consisting of 23 pieces)	
2.0	OIML Accuracy Class	E2	
3.0	Construction	Solid single piece	
4.0	Material	Austenitic Stainless Steel	
5.0	Shape	1 mg to 500 mg – SS wire	
		1 g to 200 g – Cylindrical with knob	
6.0	Presentation	Set of weight packed in polished teakwood box lined with lint free velvet cloth and provided with Teflon tipped forceps and gloves	
7.0	Calibration certificate	Calibration certificate traceable to national / international agencies to be provided.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF STIRRER WITH RPM INDICATOR (>150 LTR)

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-40			
Equipment Name: Stirrer with RPM Indicator (>150 Ltr)			
Quantity: 3 (Three) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Unit is suitable for mixing liquids.	
		The stirring shaft and the propeller are made out from S.S. 316 quality.	
		The stirrer shaft is directly fitted to the motor.	
		The unit is supplied with tubular adjustable Stainless Steel stand.	
		Stainless Steel Channel stand with moving arrangement through 1/2 H.P. stirrers.	
2.0	Mixing Capacity	100 – 300 Ltr.	
3.0	Speed	Adjustable 50 – 250 RPM	
4.0	Shaft length	Atleast 80 cm	
5.0	Propeller Attached to Shaft	10 X 5 cm	
6.0	Container	Supplied complete with Acid & Alkali proof Container of 200 Litre capacity with appropriate fitting arrangement of stirrer.	
7.0	Warranty	Comprehensive Warranty for three years.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF THEODOLITE

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-41			
Equipment Name: Theodolite			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Digital Theodolite with reliable and simple design to be used for general topographic surveying application and in particular for position fixing during discharge measurements on rivers and canal from boat. Should comply with IS: 2976-1964	
2.0	Technical specifications		
	Housing	Splash waterproof	
	Image	Erect	
	Magnification	30 X	
	Effective diameter of objective	>40 m	
	Field of view	1*30 to 1*40'	
	Shortest focusing distance	2.0 m	
	Resolving power	± 2.5 to 3.0 sec	
	Stadia Ratio	1:100	
	Stadia multiplier	100	
	Stadia addition	0	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-41			
Equipment Name: Theodolite			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
	Optical Plummet magnification	≥2.3x	
	Focusing Range	Less than 0.5 m	
	Sensitivity of level plate	20 sec per 2 mm run	
	Tribarch circular bubble	8 min per 2 mm run	
	Vertical circle level	1 sec per 2 mm run	
	Graduation error Horizontal / Vertical circle	1 sec (least count of micrometer)	
	Operating temperature	5 to 50 ^{0}C	
3.0	Accessories		
	Digital eyepiece	Two (one for telescope, one for micrometer)	
	Dark glasses	Dark green, light green, light blue	
	Waterproof cover	Durable plastic material	
	Plumb bob / adopter plug	One unit	
	Lens cover set	One set	
	Tool set	Spanner, tormy pins, crew drivers etc. – One set	
	Cleaning brush	One unit	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-41			
Equipment Name: Theodolite			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
	Oil bottle	One	
	Electrical illuminating unit	Two units	
	Telescopic 4.0 meter leveling staffs and accessories	2 Nos. complying with IS: 11961 – 1986	
	Carrying case	One unit of light fiber plastic, wood or metal having sufficient strength to bear normal shocks and with receptacles for holding accessories with handle carrying shoulder strap etc.	
	Tripod	1600 mm	
		Light & strong alloy, telescopic with mounting for battery	
		Illumination unit and clamping arrangement for instrument	
		Should comply with IS: 8330 – 1997	
	Centering Provision	30 to 50 mm	
	Operation Manual	One set	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF TEFLON COATED CONTAINER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-42			
Equipment Name: Teflon Coated Container			
Quantity: 4 (Four) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Fluro polymer (PTFE) coated Polyethylene / Composite material or stainless steel cylindrical container for chemical mixing and storage.	
2.0	Material	Either Trilayer Polyethylene with PTFE liner or PTFE liner coated stainless steel	
3.0	Size	Atleast 100 liters or more cylindrical	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF TURBIDITY METER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-43			
Equipment Name: Turbidity Meter			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Should be a laboratory bench model as well as Portable, suitable for measurements even for coloured samples:	
2.0	Display	Digital (LED)	
3.0	Ranges (NTU)	0-10, 10-100, 100-1000	
4.0	Accuracy	± 2% of full scale 1 & 1000 NTU	
		± 1% of full scale 10 & 100 NTU	
5.0	Reproducibility	Less than 0.1% of full Scale	
6.0	Resolution	0.01 for 0-0.01 NTU	
7.0	Stray Light	Less than 0.01 NTU on 0-10 range	
8.0	Power Requirement	230 ± 10 volts 50 HZ AC	
9.0	Air Purge	0.1 cfm at 20 psig/max instrument air.	
10.0	Construction	Epoxy - coated steel case, with instructions manual, power cable, plug, dust cover, Cuvettes and Cuvettes stand.	
11.0	Warranty	Comprehensive Warranty for three years.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF ULTRASONIC PIPETTE CLEANER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-44			
Equipment Name: Ultrasonic Pipette Cleaner			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Microprocessor based Digitally controlled laboratory Ultrasonic cleaning bath to remove contaminants, dirt and grease from glass pipettes, other glasswares, equipment parts etc.	
		Should ensure safe operation and simple handling	
2.0	Bath construction	Type 304 stainless steel tank corrosion resistant with stainless steel cover	
3.0	Bath Dimension	Approx. L 15 cm x W 30 cm x 15 cm H	
4.0	Bath Capacity	Approx. 6 ltr or more	
5.0	Ultrasound level	Max. 2 x 240 wall / period, 3 J KHz provide uniform ultrasonic activity for consistent cleaning	
6.0	Power input	230 ± 10 V, 50 Hz AC	
7.0	Set Timer	Build in 60 minutes countdown timer for sonics	
8.0	Digital control panel	Power switch, convenient touch control, temperature readout, turn heat on off, tabs and tab for temp. adjustment	
9.0	Temperature setting	Thermostatically controlled with LED / readout	
		Maintain optimum cleaning temp. of more than 65 ^{0}C	
10.0	Start	Instant start, no warm-up time	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-44			
Equipment Name: Ultrasonic Pipette Cleaner			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
11.0	Operation	230 ± 10 V, 50 Hz AC	
12.0	Weight	Light weight	
13.0	Accessories	Should be provided with spares, accessories like insert tray made up of stainless steel, operation manual, dust cover etc.	
14.0	Warranty	Comprehensive Warranty for three years.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF VOC SAMPLER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-45			
Equipment Name: VOC Sampler			
Quantity: 5 (Five) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Compact and light weight constant flow Portable Sampler with LCD display operated on rechargeable batteries for field sampling of Volatile Organic Compounds (VOCs)	
2.0	Constant flows	From 20 to 225 ml/min.	
3.0	Pump	Low Flow Pump with single point pump	
4.0	Compatibility	Computer Interface Port	
		Programmability and PC compatibility options	
5.0	Accuracy Variance between LCD reading and Actual Flow Rate (after calibration	20 to 225 ml / min ± 5%.	
6.0	Flow control Accuracy	± 5% of set-point in constant flow after calibration.	
7.0	Pressure ranges	1 to 10 inches of water (1.87 to 18.7mm hg) at a max flow rate of 200 ml / min	
8.0	Battery pack	Rechargeable Ni-Cd battery pack, 2.4 V X 0.6 AH or	
		Rechargeable Ni-MH battery pack, 2.4 V X 1.0 AH	
9.0	Charge Time	≤ 6 hrs with Pocket Pump charger (battery attached to pump). Approximately 16 hrs with charger (battery detached from pump)	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-45			
Equipment Name: VOC Sampler			
Quantity: 5 (Five) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
10.0	Battery Charge Level Indicator	Icon displayed at full, mid, and low charge.	
11.0	Case	Impact-resistant stainless steel with ABS/polycarbonate with Nylon shoulder straps	
12.0	Operating temperature	0 to 45 °C	
13.0	Operating Humidity	0 to 95% non-condensing	
14.0	Tubing	¼ - inch ID tubing – 20 m	
15.0	Run Time	200 ml / min and 10 inches water back pressure, nominal run time is approx 8hrs and 200ml/min and 20 inches water back pressure, nominal run time is approx 6hrs.	
16.0	Timer Display range	1 to 9999 minutes	
17.0	Timing Accuracy	± 1%	
18.0	Charger with cable	Single point, 230 ± 10 V, AC 50 Hz input	
19.0	Key pad with operating buttons	Sliding Key Pad Cover	
20.0	Programmable functions	Programmable for flow rate, Start, Stop date and sample duration etc.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF WATER PURIFIER WITHOUT RO SYSTEM

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: ICB-46			
Equipment Name: Water Purifier without RO System			
Quantity: 1 (One) No.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Water purifier system should be compact, wall mounted, easy to operate / maintain and handle the normal tap water supply with no problem of Hardness and salinity.	
		Reverse Osmosis and water storage facility not required with the system.	
		System should directly be connected to water supply facility and output water should easily be collected in pot, bucket or other containers.	
		System should have facility for sensing water purity and minimizing scaling	
		System should adopt input water temperature ranging between 15-40^0 C.	
2.0	Input water pressure	Around 0.4-2.0 kg / Sq. cm	
3.0	Water flow rate	1-3 litre per minute	
4.0	Output water quality:	Hardness in terms of Calcium Carbonate – around 200 mg/l, presence of no chlorine and pathogens.	
5.0	Power requirement:	230 ± 10 V 50 Hz AC, should resists power fluctuations	
6.0	Warranty	Minimum three years with periodical replacement of exhausted parts.	
7.0	Maintenance contract	Comprehensive Annual Maintenance Contract amount for further two years may be quoted after expiry of warranty period.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF WATER PURIFIER WITH RO SYSTEM

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-47			
Equipment Name: Water Purifier with RO System			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Reverse Osmosis based reputed make water purifier system should be compact, wall mounted, or bench model, easy to operate / maintain and handle the normal tap water supply with Hardness, salinity and residual chlorine. System should be ISO certified / BIS certified.	
		System should directly be connected to potable water supply line and output water should be collected in built-in reservoir tank dispensable through tap.	
		System should have facility for sensing incoming water pressure and provided with automatic Cut Off at low water pressure.	
		System should adopt input water temperature ranging between 15 ^{0}C to 45 ^{0}C	
2.0	System Configuration	6 Stage Water Purification Unit + Pump + Auto flushing	
		1st State: Pre-filter – should remove suspended particles, dirt, rust or other visible impurities.	
		2nd Stage: Pre-carbon filter – remove residual chlorine, organics compound, colour, odor and fine floating particle	
		3rd Stage: Sediment filter – should remove fine particles such as sand, iron rust, copper rust or other visible impurities.	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-47			
Equipment Name: Water Purifier with RO System			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
		4th Stage: TFC RO Membrane – should remove water contaminant such as heavy metals, salinity, total dissolved solid, harmful organic chemical. The water reject with harmful material should be discarded from the system and flowed out.	
		5th Stage: Taste Enhancer or post carbon filter – should maintain TDS level also improve the taste of treated water	
		6th Stage: Ultraviolet – to provide bacterial disinfection in treated water	
3.0	Input Water Pressure	0.15 – 0.35 Mpa;	
4.0	Low Pressure setting	0.05 Mpa; Auto Start and Auto Off.	
5.0	Feed Water Flow rate	7.6 LPM	
6.0	Production capacity	10 Litre / Hr or more	
7.0	Output water quality	90 – 95% rejection of Total Dissolved Solids / Salinity; Hard water to provide contaminant free pure sweet & clean water retaining essential minerals.	
8.0	Storage Tank Capacity	8 Litre or more	
9.0	Reverse Osmosis (RO) Membrane Cartridge	'Dow' Filmtech 1812-75 Polyamide thin film Composite (TFC) Reverse Osmosis Membrane with rejection rate >98%	
10.0	Max Duty Cycle	Atleast 60 Litre / Day or more	
11.0	Power requirement	230 ± 10 V 50 Hz AC	

CENTRAL POLLUTION CONTROL BOARD

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-47			
Equipment Name: Water Purifier with RO System			
Quantity: 2 (Two) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
12.0	Operating Voltage	24 V DC with inbuilt transformer	
13.0	Flush Mode	Automatic with less than 18 second auto flush time.	
14.0	Accessories	Should be supplied with operation & maintenance manual, Dust cover, requisite length of tubing etc.	
15.0	Installation	Supplier should install the system through necessary plumbing etc. free of cost.	
16.0	Warranty	Minimum three years with periodical replacement of exhausted parts.	
17.0	Maintenance contract	Comprehensive Annual Maintenance Contract amount should be quoted for further three years after expiry of warranty period.	
18.0	Booster Pump (Optional)	Booster pump of required capacity may be quoted in case if it is necessary. Detail technical specification of Booster pump should be enclosed.	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF ZERO GRADE NITROGEN (N_2) GAS (CERTIFIED) WITH CYLINDER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-48			
Equipment Name: Zero Grade Nitrogen (N_2) Gas (Certified) With Cylinder			
Quantity: 5 (Five) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Nitrogen Zero Grade in carbon steel Cylinder with pressure regulator double stage valve SS 316, SS diaphragm with BIS or ISO certificate	
2.0	Cylinder Capacity	47 Litre	
3.0	Cylinder Pressure	120 Kg/Cm^2	
4.0	Purity of nitrogen gas	99.999%	
5.0	Stability	One Year	
6.0	Traceability	Certified gas purity and traceability alongwith certificate	
7.0	Other requirement	Cylinders should be supplied with Hydraulic certificate and certificate from Chief Controller of Explosives, Nagpur	

CENTRAL POLLUTION CONTROL BOARD

TECHNICAL SPECIFICATIONS OF ZERO AIR GAS (CERTIFIED) WITH CYLINDER

Procurement of instruments / equipment for Central Pollution Control Board Laboratories (HQs & ZOs)			
Code Number: LCB-49			
Equipment Name: Zero Air Gas (Certified) with Cylinder			
Quantity: 5 (Five) Nos.			
S. No.	**Specifications**	**Requirement**	**BIDDER'S RESPONSE: (Bidder shall indicate "Complied" or "Non Complied" as applicable in each row. In case of "Non Complied", detail shall be mentioned)**
1.0	Description	Zero Air in carbon steel cylinder with pressure regulator double stage valve SS 316, SS diaphragm with BIS or ISO certificate.	
2.0	Cylinder Capacity	47 Litre	
3.0	Cylinder Pressure	120 Kg/Cm^2	
4.0	Purity of zero air gas	99.999%	
5.0	Stability	One Year	
6.0	Traceability	Gas purity and traceability along with certificate	
7.0	Other requirement	Cylinder should be supplied with Hydraulic Certificate and certificate from Chief Controller of Explosives, Nagpur.	

CHECK LIST FOR THE BIDDER

1. Bid on original Tender form only.

2. Separate EMD against each item.

3. Earnest money or necessary documentary proof for exemption of earnest money with the part 1 of the bid.

4. Price bid must be Part II of the bid in the form provided at Annexure II of the tender document.

5. The Basic Price, Taxes, Packing, Forwarding, Handling, Transportation Insurance, Installation charges etc. must be quoted clearly. Do not use vague terms like “As Actual, Approximately etc”.

6. Do not use the terms As per Specification of Tender Documents’ in respect of instruments. There should be proper write up of production quoted for supported with printed leaflets literature.

7. In case of bidders desirous to quote more than one item, separate envelop should be submitted (technical & price bid) for individual item superscribing item code number and name.

8. With technical bid, the bidder should provide a copy of the price bid format (giving details of the items, accessories, spares etc.) without specifying the price other than one mentioned in annexure-II of this tender document.